NOVEMBER 2015

DITCH COAL

THE GLOBAL MINING IMPACTS OF THE UK'S ADDICTION TO COAL

a report by the Coal Action Network

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For full References & Notes please see **http://coalaction.org.uk/references/**

For Appendices please see **http://coalaction.org.uk/appendices/**

This report has been written by the Coal Action Network (CAN). Individuals from CAN have researched and written some of the sections independently and others have been written collaboratively by the CAN team.

CAN is a grass-roots campaigning organisation which works directly with communities affected by the coal industry. Most of our efforts have been to support communities in the UK resisting opencast developments near to their homes, through legal channels and direct action. Many of the groups CAN has supported have been successful in protecting their local areas, and all have increased their collective strength and ability to resist opencast developments. Up to date information in relation to mining in the UK and the coal trade is available on our website **http://www.coalaction.org.uk/**.

CAN works with the London Mining Network (LMN), which in turn works to support communities around the world that are adversely affected by mining. LMN's specific focus is on mining companies based in, or financed from London. LMN is a member of the European Stop Mad Mining Project. See **http://londonminingnetwork.org/**.

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This report has been written with the help of numerous groups and individuals who live in communities affected by coal, or who work to highlight the environmental and human rights impacts caused by coal mining, transportation, and burning. CAN hopes that this report will increase understanding between individuals and groups in the UK, and communities affected by coal in other countries, and that it will contribute to a quick and complete phase out of coal-fired power stations, as well as an end to coal mining.

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Cover photo: Cerrejón mine, Colombia. Hour.poing

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2015 European Year for Development

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CERREJÓN MINE, COLOMBIA. TANENHAUS

SUMMARY

Coal is at a crossroads in the UK. On the one hand, the UK's dirtiest power stations burn vast quantities of coal, with little or no regard for the human and environmental impacts that this has. On the other, coal's contribution to the UK's energy mix is in decline, as is the domestic coal mining industry, and indeed the volume of coal imported from elsewhere in the world. Recently, the UK Government announced an intention to "consult" over proposals to close remaining coal fired power stations by 2025. A vitally important decision therefore lies ahead – either ageing coal-fired power stations will upgrade and be given a new lease of life, or they will be closed once and for all.

This report aims to "follow the coal" in order to expose the impacts of the coal burned in UK power stations. CAN concludes that regardless of where coal is sourced from, the negative impacts of its extraction on communities and their environment heavily supports the argument that the UK must choose a swift and total phase out of coal now.

In 2014 the contribution of coal to the UK's energy mix fell to a low of 30%, equalling that of gas. There is an international move away from coal, which is the most carbon intensive fossil fuel.

Coal is transported to 13 UK coal-fired power stations, three of which have announced that they will close in March 2016. The futures of the the remaining 10 are uncertain: they will have to adapt and invest in order to comply with new EU air pollution regulations, or close. There is one proposal for a new coal-fired power station with CCS, which has had recent setbacks.

Russia is the biggest exporter of coal to the UK, supplying 43% of thermal coal imports. In Russia's main coal producing region, the Kuzbass area of Siberia, mining is devastating indigenous communities and their cultures. Shor and Teleut peoples are being forced off their ancestral lands, breaking the connection with their spiritual homes, their culture is being attacked and their language is fading from use.

Colombia supplies the UK with 33% of thermal coal imports. Companies exporting coal to the UK have been implicated in financing paramilitary mass murders, executions, and disappearances. Whole villages have been forcibly evicted to make way for mines, with insufficient relocation plans. People who challenge the mining companies' practices have had threats made against their lives.

Coal from the USA makes up 19% of imports of thermal coal to the UK. Extremely destructive mining operations are destroying huge swathes of land and ecosystems, and poisoning local people. Mountaintop removal and damaging deep mining processes are used by companies exporting coal to the UK.

Over the past year, power station closures as well as a reduction in demand from operating power stations has resulted in a significant reduction in the quantities of coal imported. Simultaneously, volumes of coal mined in the UK have continued to fall. Domestically-produced coal now accounts for around a third of total coal use, despite its continued decline. Opencast mine applications in the UK are fiercely resisted by local residents, and the UK's last remaining deep mine is due to close in December 2015.

There are many different players involved in the international coal trade. The multiple layers of the supply chain, and the lack of transparency through them, enable companies to ignore their responsibilities for the impacts caused along the way. Currently, the end users of the coal, power stations and energy companies, bear almost no responsibility for these impacts, and are

not even obliged to disclose where their coal is sourced from.

The London Stock Exchange (LSE) lists many of the biggest mining companies in the world but in practice does not regulate their behaviour. This enables LSE listed companies such as BHP Billiton to move ahead with plans that would see huge swathes of undisturbed Indonesian forests destroyed for new coal mines.

UK banks are amongst the top 20 funders of coal projects globally and many public institutions and individuals have money invested in coal and other fossil fuels. In response to this, there is a growing divestment movement working to remove the financial backing for this destructive industry.

There is a lack of transparency in the coal supply chain where companies self-audit to create an illusion of transparency, and use the veil of corporate social responsibility to avoid any responsibility for the damage caused by the industry. Fortunately, there are tangible ways to lessen the impacts of this supply chain. These include supporting existing groups fighting coal extraction, forming strong international alliances and divestment from coal.

The Conservative Government has pledged to phase out unabated coal-fired power stations by 2025, subject to a consultation and a number of caveats, but as yet has not devised any legislation to ensure that this happens.

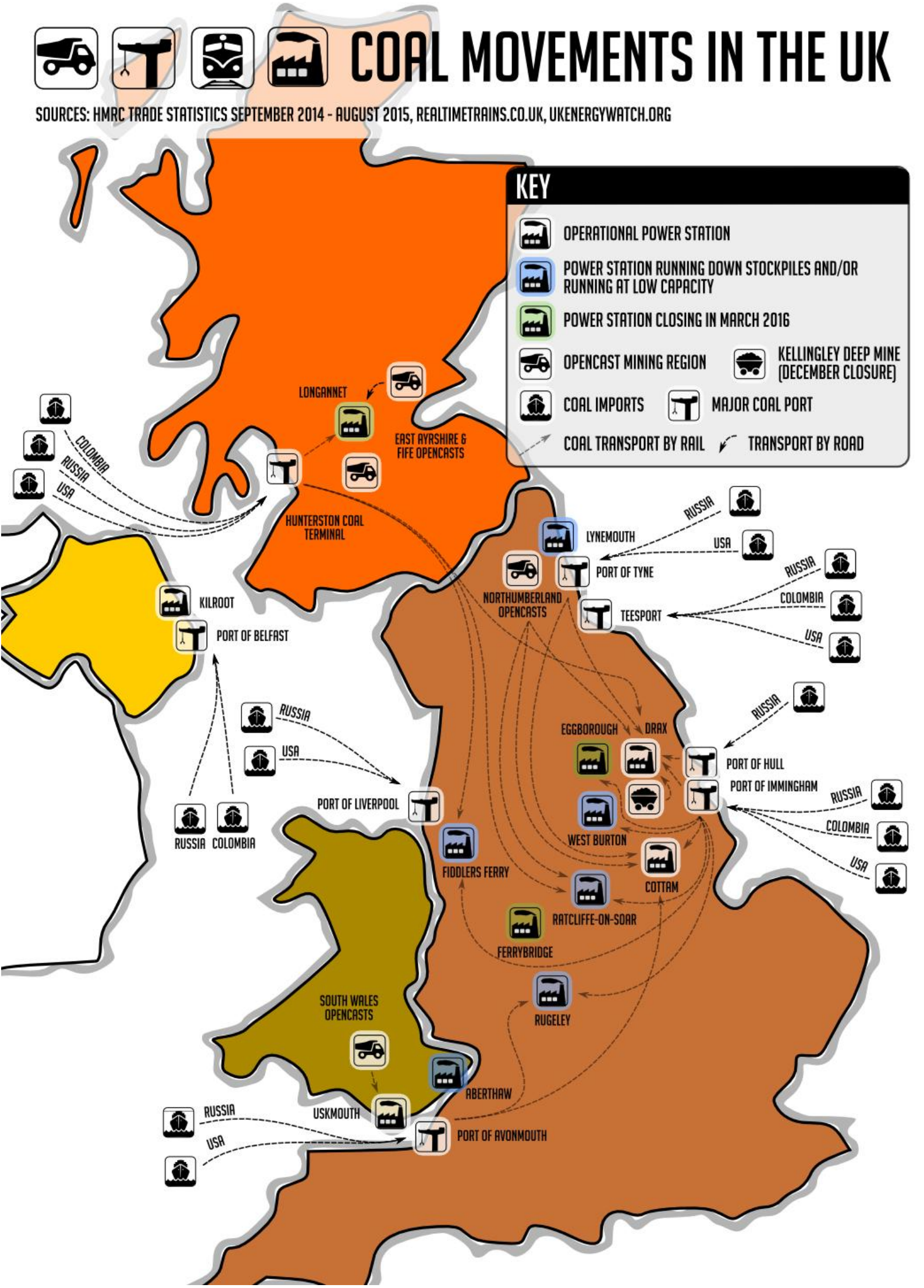
CAN is calling on the UK Government to bring forward the date for a complete coal phase out, and to back this up with new legislation that ensures it happens. Any delay in phasing out coal in the UK only adds to the unacceptable impacts outlined in this report.

Electricity production in the UK has been prioritised over people and biodiversity in the areas affected by coal infrastructure. It is time for this to change. This report calls for a complete, early and legally binding coal phase out, and an end to opencast mining in the UK.

ABERTHAW POWER STATION, SOUTH WALES. CAN

COAL MOVEMENTS IN THE UK

SOURCES: HMRC TRADE STATISTICS SEPTEMBER 2014 - AUGUST 2015, REALTIMETRAINS.CO.UK, UKENERGYWATCH.ORG

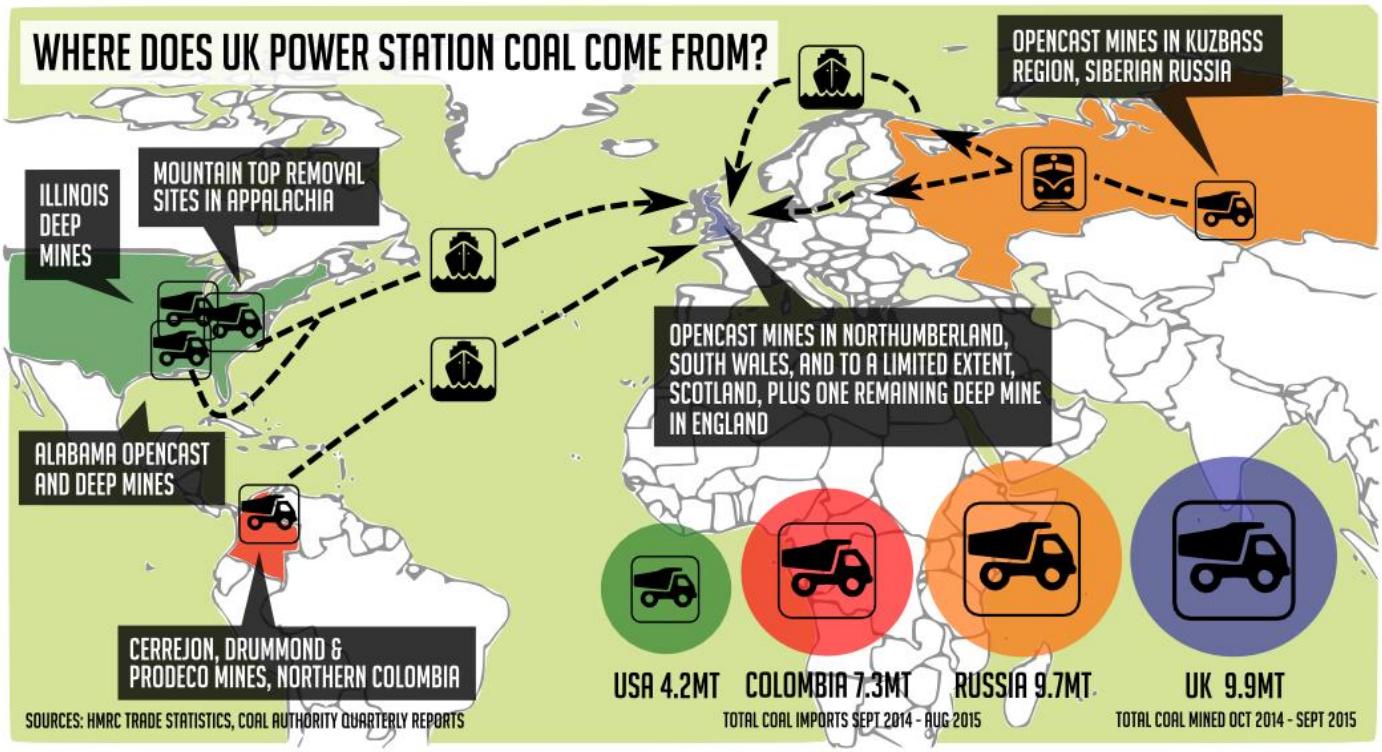


INTRODUCTION

It is widely known that burning coal is the single biggest driver of climate change. What is less well known is that much of the coal burnt in UK power stations comes from Russia, Colombia and the USA, causing serious impacts on communities and the environment throughout its supply chain. Current debates surrounding the closure of coal-fired power stations centre on greenhouse gas emissions and climate change. Whilst these are vitally important considerations, the impacts of coal extraction on front-line communities are often ignored. These impacts include serious assaults on the cultural heritage of indigenous communities, contract killings and disappearances, land disputes, ecosystem destruction, and lack of free, prior, and informed consent from local people. This report aims to shed light on these impacts, and to link power stations in the UK with the communities impacted by the coal mines at the start of the supply chain. It brings together the publicly available information on the UK's role in the international coal industry and adds an extra dimension to calls to close the UK's remaining coal-fired power stations as quickly as possible.

In 2014, coal provided 30% of the UK's electricity generation, equal to that of gas. This is a fall on previous years when coal was the dominant fuel; coal provided 36% of the UK's energy generation in 2013. [1] Of the coal imported between September 2014 and August 2015, coal burned in power stations accounted for 80% of total imports, with coking coal for steel production accounting for much of the remainder. [2]

Between September 2014 and August 2015, the most recent 12-month period for which data is available (hereafter referred to as "the past year"), imports of thermal coal from Russia, Colombia and the USA accounted for 43%, 33%, and 19% of total UK thermal coal imports, respectively. [2] This is similar to figures over previous years. However, there has recently been a significant reduction in the amount of coal imported



STOCKPILING COAL AT UK POWER STATIONS. CAN

into the UK. [3] Imported coal now comprises around two thirds of the coal burned in power stations in the UK. [4]

The focus of this report is on coal burned in power stations for electricity generation. This coal is called "thermal coal" or "steam coal", and for the purposes of this report will be referred to as thermal coal. This report looks at coal sourced from the main exporters of coal to the UK, as well as domestically mined coal. However, given the global nature of the coal trade, most of these issues are just as relevant to other coal producing countries, and indeed other types of coal, such as metallurgical or coking coal. Coking coal is also burnt in power stations, but to a lesser degree than thermal coal. As many of the companies involved in coal mining in other countries mine both thermal and metallurgical coal, both have been considered in terms of their mining impacts, but only thermal coal is considered once it reaches our shores.

Coal mined in the UK is generally thermal coal, and burned in power stations. Coal used for domestic heating does not form a large proportion of UK coal use and so is not considered in this report.

The coal industry has changed dramatically in the last 50 years. In the 1960s the UK was self-sufficient in coal. [5] Peak employment in coal mines was in the 1920s with over 1.2 million people employed in coal mining in Britain. [6] Now most coal is imported. Three of the biggest coal mining companies in the UK have recently gone into liquidation. Many international coal companies are also experiencing financial difficulties due to the low international coal price, which is caused in part by oversupply.

As energy companies around the world search for the cheapest coal to burn, there has been a race to the bottom. Companies are pursuing coal extraction using the cheapest and easiest methods - often the most environmentally damaging - in areas where labour costs are lowest, and environmental and human rights legislation is weaker than in the UK.

The first section of this report looks at the supply chain from point of extraction to the ports of export including transportation along the route. This is divided into four chapters covering the main sources of coal burned in the UK: Russia, USA, Colombia and UK domestic production. Coal coming to the UK from within the EU is also considered.

The second section looks at the physical supply chain for coal, including international shipping, the ports of import, and transportation within the UK. It then looks at the power stations burning the coal, the energy companies operating them, and the EU directives which control their air pollution. The methods used in this research are described in Appendix I.

The third section looks at what role the UK Government plays in relation to coal, and the coal industry's response to criticism of its impacts. It also looks at the impact of coal mining companies listed on the London Stock Exchange and UK funding of the coal industry. A severe lack of transparency in the supply chain is also detailed in this section.

The fourth and final section draws together the conclusions from this research.

DRAX POWER STATION. STEVE MORGAN/GREENPEACE

PART 1

COAL MINING IN RUSSIA

The supply chain of coal from Russia to the UK is a secretive journey involving devastating impacts on indigenous communities and the silencing of groups resisting it by the State. In the past year, 43% of all imported thermal coal came from Russia. [1] Since 2005, Russia has supplied the UK with more of its coal than any other country. [2] Despite this, most people in the UK are not aware just how reliant on Russian coal we are. At times there is concern that the UK is too reliant on Russian gas, and that this supply is vulnerable. [3] In reality the UK energy supply is far more reliant on Russian coal than gas. The UK produces about 60% of gas it consumes [3] but only around a third of the thermal coal it uses. [4] The UK market is more important to the viability of the Russian coal industry than the Russian gas industry.

Russia is the sixth largest producer of coal globally [5] and like many other big producers consumes most of this coal domestically. In 2013 less than 17% of coal produced in Russia was traded internationally. [6] Expanding the quantity exported has become a focus for the Russian coal industry.

"In 2013 the volumes of Russian coal exports increased by 6.5% to 139.0 million tons, but due to falling global prices, income for the same period fell by 9.2% to 11.8 billion dollars. The main barrier to further development of exports in Asian countries is inadequate infrastructure." [6]

Coal is cheaper from Russia than other countries when transport is factored in (Colombian coal costs least prior to transportation costs) [7] which is part of the reason the UK burns so much of it. The reason for this is 'access to cheap labour' [8] and the economies of scale of Russian opencast mining (producing 65% of Russian coal), with high production rates and low exploitation costs.

THE UK: AN IMPORTANT MARKET FOR RUSSIAN COAL

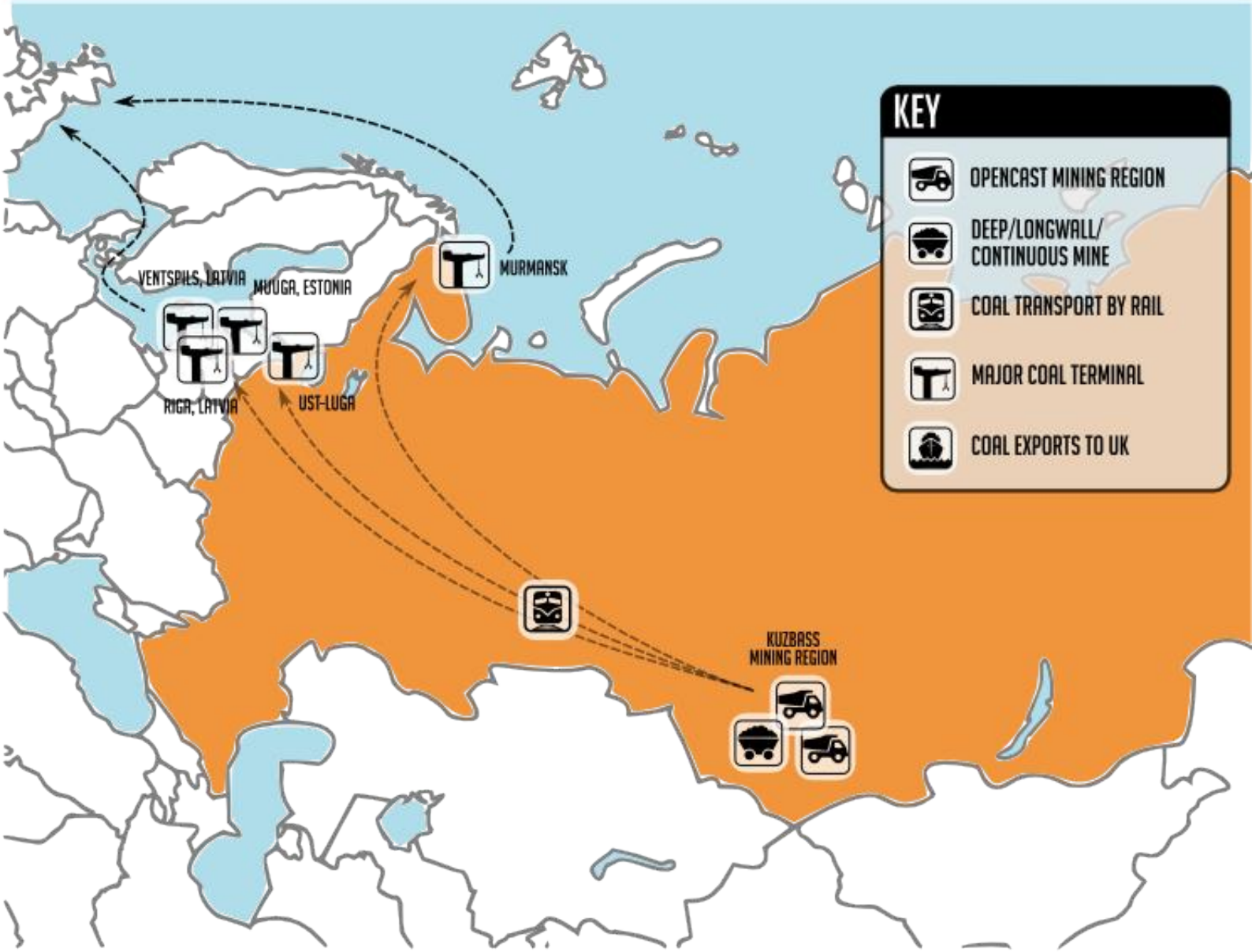
A report from the Russian Government in 2013 showed that exports of Russian coal to the United Kingdom (15.6%) were the second largest, after China (33%). [9] SUEK is the Russian company with the single greatest share of the export market and the UK is its biggest customer in the Atlantic region. [10]

COAL TRUCK IN THE KUZBASS MINING REGION. ECODEFENSE!

All Russian coal mining is done by private companies according to Emerging Markets Insight. In 2013 there were 121 open pits and 85 underground mines. 14% of all energy consumed in Russia comes from coal. [11]

The scale of destruction caused by coal mining in Russia is immense. For each tonne of coal produced, six hectares of land is disturbed. [12] The coal industry also has the most dangerous working conditions of any industry, in terms of risk to life and welfare, with 40-50 fatal accidents each year. [13]

COAL MOVEMENTS TO THE UK FROM RUSSIA



The supply chain of coal from Russia to the UK has no transparency. The companies do not publish much information and little comes out of the Russian State (see Appendix I). The flow of coal in the international market has become much more fluid in the past 1-2 years. [14] This makes tracking it even more difficult.

The Kuzbass is an administrative region of Russia, located in south western Siberia, also known as the Kemerovo Oblast. The Kuzbass region produces the greatest amount of coal for export in Russia. [15] It is therefore reasonable to believe that a significant quantity of coal from the Kuzbass region is burnt in UK power stations and used in UK steel manufacturing. The main foreign buyers of Kuzbass coal are European countries - Britain, the Netherlands, Germany, Poland, Denmark, and Ukraine, as well as China, South Korea, and Turkey. Coal makes up 70% of the foreign trade turnover of the region. [16] Both thermal and metallurgical coal are mined in the Kuzbass region. [15] Kuzbass coal has to travel long distances by rail, about 2,600 miles to reach Russia's Baltic port of Ust-Luga, for export to European countries, [17] including the UK. [18] The Kuzbas region is the same area where the indigenous Shor people live, and are being dispersed from, because of coal mining.

OPENCAST COAL MINE IN KUZBASS REGION. ECODEFENSE!

INDIGENOUS PEOPLE - THE SHOR

There are 228 different companies involved in coal mining in Russia. [19] The dark trail of coal dust weaves a long path through the country and it is very difficult to trace the coal to the area where it was mined. There is little transparency and large volumes. The extraction of coal has had significant consequences for the people living in the coal mining regions. The most well documented is the plight of an indigenous tribe, the Shor. The native Teleut are also severely impacted, but there is significantly less information relating to their struggle. Both the Shors and the Teleut live in the Kemerovo Oblast.

The Shors' experience of coal mining is one of exploitation of the land and waterways on which they are dependent for food, hunting, water, and religious practices. There is supposed to be legal protection for the minority groups within Russia, but the experience of the Shor and Teleut people highlights the extent to which this can be trampled upon, resulting in cultural genocide.

'Like many indigenous populations around the world, they [The Shors] can recount a history of invasion, exploitation, and assimilation into the dominant culture. But they are battling to save their culture and contribute to the global indigenous community.' [20]

The mining exploits in the Kemerovo region have left many Shor homeless, or displaced to other areas, which severs their spiritual, cultural, and practical attachments to the land. No useful substitute land, nor compensation has been offered to them. [21] The Kemerovo Oblast, where most of the Shors and Teleut live produces 60% of Russia's coal. [22]

There are a small handful of organisations working on the impacts that mining has had on the indigenous population. Three such groups, the Russian 'Revival of

Kazas and the Shor people', International Work Group for Indigenous Affairs (IWGIA), and Institute for Ecology and Action Anthropology (INFOE) wrote a submission on the Russian Federation to the United Nations Committee on the Elimination of all Forms of Racial Discrimination. Titled 'Discrimination against Shor communities in Myski municipal district, Kemerovo Oblast' it was submitted at the Committee's April – May 2015 session.

The summary describes the process leading up to all-out destruction of the predominantly Shor village of Kazas, including:

• the abolition of Shor self-administration and the transfer of most of their ancestral land to a neighbouring municipality, excluding the Shor from decision-making on these territories;

• the ever closer encroachment of mining operations towards the boundaries of the village, making environmental conditions for the residents unbearable;


KAZAS RESIDENT AFTER THE HOUSES HAVE BEEN DESTROYED. RAIPON

• the destruction of their ancestral territories and natural means of existence, including hunting grounds, pasture, livestock, fishing grounds;

• pressure from the administration to resettle residents without a resettlement plan or compensation;

• dismantling of the villagers' public infrastructure and services by the authorities;

• armed checkpoints disrupting freedom of movement; and

• a series of arson attacks in which several houses of villagers unwilling to sell their properties were destroyed. [23]

"Chuvashka is the Shors' only village in this area. In the 1990s, about 16,000 Shors were living here. Today, there are just between 4,500 and 5,000 people here. Tashelga, Khomutovka, Zaslonka, Kezek, Bolshaya Rechka, Shodrovo, Tos, Chiazas, - all Shor villages that have disappeared." Says a Shor woman in the Ecodefense! Film 'Condemned.' [24]

The Shor people are one of the forty Indigenous Minority Peoples of the North, Siberia, and the Far East that the Russian Federation officially recognises, and whose protection is guaranteed by Article 69 of the Constitution and by three federal framework laws. [25] There are at least another 140 different peoples who are not recognised by the State. Russia has not ratified International Labour Organization Convention 169 and has not endorsed the UN Declaration on the Rights of Indigenous Peoples. [26] These agreements state that signatory countries must ensure indigenous and tribal peoples are consulted on issues that affect them. They also require that such peoples are able to engage in free, prior, and informed participation in policy and development processes that affect them. [27]

"The survival of the Shor people is in jeopardy because of the mines. In Russia there are 16,000 Shors. 12,000 still live in Kemerovo region." [28]

Their population decreased by 24% between 1998 and 2010 when other populations were increasing. Now 75% of Shors live in urban areas, yet - as a vernacular - the Shor language is used exclusively in small settlements, the same settlements that are most threatened by mining of coal. [29] The attacks on the sustainability of the Shor people began well before 1998.

There have been times when Russia has granted self-determination to the Shor people, only to take it away

again. For example, in 1997 the Shor were given self administration, but it only lasted until 2002. In 2007 the rural council of the Shor people was abolished and they fell under the Orlovskoye rural settlement. This meant the Shor lost control of their ancestral lands, and the only public hearings in relation to mines on their ancestral lands happened away from their territories. For example, at the hearings for the Kiizasski opencast mine no-one from affected land was able to attend, as the hearing was dozens of kilometres from the Shor villages affected. [30]

ONGOING HARASSMENT OF SHOR PEOPLE

These events are the most recent chapter in the assault on the indigenous people of this area. The Shors have existed as a distinct population since the sixth century. In the 19th century, missionaries tried to convert the Shors to Christianity and they were threatened if they did not comply. The Bolsheviks began to extract their natural resources. [31]

In 1926, a Mountain Shor National District was created covering much of the territories of today's Kemerovo Oblast. [33] Unfortunately, at the beginning of the thirties, the Soviet Government discovered huge deposits of coal, iron, and gold in the area. By the late thirties large numbers of non-indigenous people were arriving to the Mountain Shor National District to work. In 1939 the Shor's Ethno-Cultural region was officially annulled. [28]

In 1943 the Kemerovo Oblast region was created in order to satisfy the desire of Russian companies to exploit metal and coal deposits under Shor territories for the Second World War.

"Assimilation, loss of language and traditions became overwhelming. Beginning in Stalin's times the Kuznetzk region was covered by the intense network of Gulag labor camps. This had a devastating effect on the Shors morals and spiritual ethics." [28]

During Stalin's regime almost all of the educated people were killed and the Shors' books and manuals were destroyed. Hard labour sentences served in Shor villages brought problems of alcoholism, drugs, and increasing crime. [31] Minerals extraction prevented many of the Shor's natural means of existence. By the late 1940s, the Shors' population had already been reduced from 70% of what it had been ten years before. [32]

KAZAS HOUSES BEING BULLDOZED. RAIPON

MINING DUST BEHIND A VILLAGE IN THE KUZBASS. RAIPON

MODERN EFFECTS OF MINING

The physical assault on the Shor people involves significant water pollution. Only 6% of waste water is treated to ensure that toxin levels are below the permitted thresholds. Tailing ponds, quarry lakes, and mining dump heaps cover huge swathes of land. [33] These waste waters contain large amounts of toxic chemicals such as petroleum products, phenols, and heavy metals, significantly increasing the health risks for the Shor people, for whom fishing is one of the principal traditional economic activities and sources of their daily diet. [30 & 32]

Villagers also reported that since the mines were operating close to their territories, their gardens, and crops are constantly covered in yellow dust, carried over by mining explosions. They attribute increased levels of disease to this dust. Hunters have reported that mining operations have virtually emptied their hunting grounds, depriving them of an important source of income. In 2012, following many complaints from villagers, the federal environmental agency, Rosprirodnadzor, conducted an investigation which in 2013 resulted in a procedure to revoke the mining license held by Yuzhnaya This company is owned by the holding company Sibuglemet who export to the UK. The investigation was never completed, however. No data regarding water pollution or any other results of the investigation were ever published. This suggests that the State party was acutely aware of the severe harm suffered by the villagers, but failed to adequately protect their right to health and water. [34]

The spirituality of the Shor people has been totally disregarded, with Karagay-nash mountain being desecrated and destroyed by mining. For the inhabitants of Kazas, the mountain was considered the seat of an extraordinarily powerful spirit which protected Kazas and guarded their lives from birth to death. [35]

Shor from all walks of life maintain their belief in these spirits. In particular, they point out that a failure to pay their respects to the spirits constitutes an insult to the ancestors. Nonetheless,the Shor are generally cautious to display this publicly in mainstream society for fear of being subjected to insult and ridicule. This is rooted in their historical experience, especially from the Soviet era when publicly defending their sacred sites was met with repression or public defamation. [35]

Before its destruction, residents in Kazas could see rocks flying from blasting on the mines. As the conditions in the village became unbearable many of the villagers had to leave and were considered by the companies to have voluntarily relocated. Heavy explosions were carried out as close as 700 meters from their homes. The local government added to the pressure on local people to move without financial compensation from the companies. They made the village uninhabitable by removing the drinking water, sold the village clubhouse to the mining company and stopped clearing the roads in winter. In December 2012 local people voted for voluntary resettlement in an incredibly biased vote, where local people were only given 10 minutes notice of their choices. This enabled the companies to start pressuring individual families to sell their property, rather than negotiate for an entire

community resettlement deal. By the following year all but five families had agreed to leave. [36]

On 2nd November 2013, the director of Yuzhnaya, Ilgiz Khalimov, met with the five families who had not agreed to leave. He was heard saying "*If they don't sell their houses and estates to Yuzhnaya, then the houses might burn down.*" (This incident is on record as it was later reported to the public prosecutor.) Soon after, arson attacks started: the first house was burnt down later in November 2013 and the fifth in March 2014. [37] The arsonists must have come through the checkpoint to access the houses, making the lack of investigation into these crimes suspicious. There is significant evidence in relation to this case. [38] Additionally, in March 2014, a house occupied by two orphans was bulldozed by Yuzhnaya, and even the top soil was excavated and carried away. [37] There has, however, been no investigation into these crimes that cleared the way for mining expansion. [39]

The villagers have been assigned 40 hectares of substitute land which is, by all accounts, unviable, and in worse condition than the land that they were forced to leave had become. No land has been assigned for their traditional subsistence activities. In addition, they have not received compensation that would enable them to rebuild their houses. Since the prices at which they sold their old properties to the mining company were grossly inadequate, most villagers do not have any savings left that would allow them to rebuild themselves. [38]

INDIGENOUS PEOPLE – THE TELEUT

"The dying flickers of the Teleut language can be found here in southern Siberia, where the coal industry blackens the sky and hems in what once was a thriving nomadic nation enlivened by shamans and holy mountains […] Language is the embodiment of human knowledge […] It's the result of centuries of survival, and it's our window into the way people understand the world around them[...] Only 2,900 Teleut are left in Russia, and only 1 in 10 speaks the language fluently" says Russian linguist Anrei Flichenko, who devotes much of his work to recording and preserving Siberia's disappearing languages. [40]

"Once the Teleut language disappears the nation disappears" says Maria Kochubeyeva, president of the Association of Teleut People. The Soviet Union's unspoken policy of forced assimilation wore away what once was a rich mosaic of indigenous peoples; the Chulym, the Evenk, and Tofalar of the Central Siberian Plateau, the Shor and Teleut nestled in the steppe north of Siberia's Altai range. After aeons of existing as nomads and hunters, Siberia's indigenous nations had their territorial lands wrestled from them by Soviet authorities. In south Siberia, coal mining drove Teleut and Shor populations from their native lands. [40]

There are estimated to be 2,500 Teleut living in the Kemerovo Oblast. The indigenous peoples now account for only 0.5% of Kemerovo Oblast's population. There are no purely Shor or Teleut settlements in the Oblast, as the settlements usually have a mixed population. Today, they are a classic example of people suffering from the "resource curse" of modern civilization. [41]

Taxes from mineral resource extraction in Russia are paid either to the Federal or to the Regional budget. Consequently, the municipality only receives the land tax and indirect payments from the industrial enterprises for operations in the municipal territory, which is an utterly insignificant share of the overall tax payment. [41] The Kemerovo Oblast Administration signs annual cooperation agreements with the coal companies, which include specific clauses relating to measures for maintaining and developing the territories of traditional natural resource use for the indigenous peoples of Kemerovo Oblast. However, according to many of the Oblast's indigenous residents, nobody knows where this money goes. [41]

GEOGRAPHICAL SPREAD OF MINING

Currently, coal mining is carried out in 25 regions of the Russian Federation. The largest 16 coal mining companies account for 78% of the total coal output in the country. According to Emerging Markets Insight there needs to be greater infrastructure to transport coal to increase the size of the industry. The main bottlenecks for Russian coal exports to Asia are the capacities of the railway transportation and the ports. [42]

In 2013 the combined Kuzbass mines produced about 203 million tonnes of all coal types, an increase of 1.5 million tonnes on 2012. Approximately 109 million tonnes of this coal was exported by sea and railroads. [15]

COAL MINING COMPANIES

Russia has 228 companies involved in mining. [19] Among the leading Russian exporters of coal are SUEK, Kuzbassrazrezugol, SDS-Ugol, Mechel-Mining, and Kubasskaya Toplivaya Kompaniya. In 2013 these companies accounted for nearly 70% of exports. [9]

The following information is a summary of the publicly available information on Russian coal mining companies where links can be made to the UK. It is not complete due to a lack of transparency. Many of the websites and annual reports do not disclose where the coal is mined, nor who is the end user.

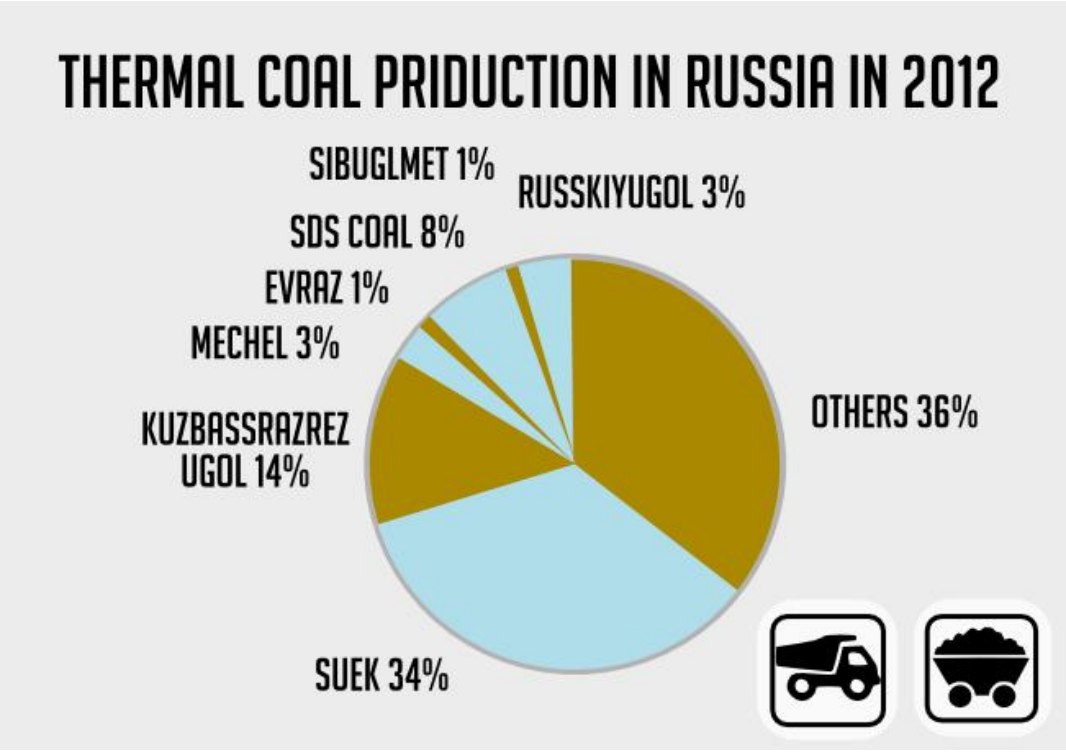
SUEK

SUEK AG is the largest individual coal producer in Russia, [45] with 24 mining operations made up of a combination of underground and opencast mines. The company operates mines in five regions of Russia for the export market. [15] SUEK sells more coal to the UK than to any other country in the Atlantic region with 41% of the 16.5 million tonnes for the Atlantic market going to the UK. [10] SUEK subsidiary OJSC SUEK operates 12 mines in the Kuzbass region with a production output of about 34 million tonnes per year. Most of this coal is for export. [15]

UDS-UGOL and MIR Trade

MIR Trade AG exports Russian coal via the Riga Terminal in Latvia to the Port of Clyde. [46] MIR Trade's graphic 'Coal Deliveries Map 2015' [47] shows coal routes to the UK this year (2015), using ports in Vyotsk, Russia, and Ventspils in Latvia - as well as Riga Terminal - to export to Hunterston, Bristol, and Immingham from the Kemerovo Oblast.

MIR Trade AG is part of the UDS-UGOL holding company and their exclusive trader. UDS-UGOL controls eight mines (three opencast, five underground) and three coal preparation plants [49] MIR Trade AG sells coal to more than 20 countries, including the UK, Germany, Brazil, Italy, Turkey, Japan, and South Korea. [48] It is possible that some of the coal coming to the UK through the ports of Amsterdam, Rotterdam, and Antwerp is from this company, as MIR Trade AG company also provides stevedoring (docking) services



through associated companies at these ports through MIR Trade Services Ltd. [48]

Carbo One and Kuzbassrazrezugol

Carbo One claims to be one of the largest coal trading companies in the world with annual sales of about 35 million tonnes. [49] Carbo One exports Russian coal from the Ust-Luga port, as well as two other Russian ports that do not supply the UK market. 50% of their coal is exported to Europe, [50] which seems likely to include the UK given that Carbo One and SUEK when combined account for three quarters of Russia's 70 million tonnes a year of thermal coal exports, [51] of which more than 16,000 tonnes were delivered to the UK in 2014. [52] Carbo One is a trader working predominantly in Russia but also active in other countries, including Colombia. It sells coal from 11 opencast and one underground mine in Kuzbass, Russia. [17]

It appears that six of the mines supplying trading company Carbo One are operated by coal mining company Kuzbassrazrezugol (see Appendix II).

Muuga Coal Port

Kuzbassrazrezugol owns Coal Terminal, which operates the Muuga coal port in Estonia. In 2005, not long after it was built, there were a significant number of complaints about copious amounts of coal dust covering the nearby villages of Uuskula and Joelahtme, 10km away. The wind coming in from the sea added to the dust problems. Residents also complained about the fact that the port had no pollution licenses of any kind and that, despite the fact that three quarters of the coal it was meant to be transporting should have been high quality, dust free coal, most of the coal in the storage areas was low quality, producing more dust. [53]

Sibuglemet

This company produces both coking and thermal coal, although it is more involved in the coking coal industry. It is the holding company which owns Yuzhnaya, the director of which predicted the burning down of the houses belonging to five families who refused to leave Kazas voluntarily (See pages 16 & 17). 40% of its coal is exported. The main foreign consumers of Sibuglemet's products are Great Britain, South Korea, Japan, and Turkey. [54] The graphic on its website suggests that it has supplied Corus (Tata Steel) in the past. There is no clear supply chain, nor sufficient information on its website to investigate where the coal is finally consumed.

Mechel

Mechel is a large Russian mining and metals company operating in Russia, Ukraine, and Lithuania. In 2012 it produced 3% of Russian thermal coal. [43] Its website does not provide information on whether it supplies the UK, although there are links to Europe. The only UK link is a subsidiary which appears to be Oriel Resources Ltd., acquired by Mechel in 2008, but is not part of the coal business now. Mechel is listed on New York Stock Exchange.

Evraz

Evraz is a London Stock Exchange listed company. It was Russia's third biggest producer of metallurgical coal in 2012 [55] and mined 1% of Russia's thermal coal. [43] Evraz also produces other minerals and steel. [56] Evraz mines coal predominantly in Russia, with 80% of its employees based there [57], and is also active in eight other countries. Evraz claims to fulfil the UK Corporate Governance Code, although a member of the Evraz audit committee failed to meet independence criteria. [58]

LACK OF TRANSPARENCY

Information in this section has been predominantly based on the reports by Russian NGO Ecodefense! and the "Revival of Kazas and the Shor people," IWGIA, and INFOE submission to the Committee on the Elimination of all Forms of Racial Discrimination. There is very little NGO activity looking at the impacts of mining on the Russian Federation, especially in comparison to Colombia where similar human rights abuses and localised environmental damage is occurring.

There are a large amount of companies operating in a vast country and the State does not want people to know what is going on. Those who have tried to challenge the Russian Federation over coal, or other environmental and human rights abuses, have suffered severe persecution.

COAL MINE IN THE SHEREGESH REGION OF SIBERIA. ECODEFENSE!

The villagers known to lead the resistance to the mining surrounding the village of Kazas were subjected to increased harassment when travelling to their own village through the checkpoints set up to protect the mines. This involved questions about the reasons for travel, as well as vehicle and document inspections. [59] Villagers have described the procedures at the checkpoint as humiliating and capricious. [60] All of the villagers were subject to being stopped at checkpoints, for which they needed to obtain monthly permits. On at least one occasion an ambulance was refused entry to the village. [60]

It would not suit President Putin to have transparency in Russian mining. Two of the biggest Russian coal exporters have strong ties to Putin's regime in Russia. There has been a court case for price fixing involving Mir Trade AG and two others companies, as well as underpaid taxes. [61]

Kuzbassrazrezugol's chairman, Andrei Bokarev, appears close to Putin having been awarded the Alexander Nevsky prize for services to the Sochi Olympics, after his company constructed the Olympic ice hockey stadium for free. [62]

REPRESSION OF CRITICAL VOICES IN RUSSIA

In 2012 the Russian Government passed a law requiring NGOs involved in 'political activity' and receiving funding from abroad to register with the State as 'foreign agents.' In a country where the term foreign agent is synonymous with traitor or spy there was unsurprisingly little willingness by groups to do this. Russia's human rights groups resolutely boycotted the law, calling it "unjust" and "slanderous." [63]

The government has tried various methods to ensure organisations register, changing the law so that the Ministry of Justice can register groups as foreign agents without their consent. It has registered 80 groups in a period of little over a year after June 2014. NGOs failing to register can, and have, been fined and their leaders also fined personally. The fines are equivalent to just over £5,000 and £3,000 respectively. The NGOs subjected to this Government action include apparently liberal groups such as "Soldiers' Mothers of St. Petersburg" and Transparency International. [63]

The suppression of NGO activity by the Russian State is aimed at stifling criticism of the Putin regime. Once registered NGOs are required to submit to onerous reporting and auditing procedures, indicating on all material they publish that they are foreign agents. [64] Ecodefense!, who have produced the informative research Russian coal industry: Environmental and public health impacts and regional development prospects, has been harassed by the Russian State in relation to this law. Ecodefense! was the first ecological group named for their protests against the Baltic Nuclear Power Plant, which was "*tantamount in the Justice Ministry's eyes to protesting the State itself, making it guilty of political activity*." [65]

Ecodefense! has been fined twice, but is refusing to pay the fines, which now amount to 400,000 roubles. Saying *"Civil disobedience is the instrument of change, when you feel change is absolutely needed […] We ignore their law – we will not give [Russian authorities] any reports, we will not mention that we are foreign agents in publications, we won't do audits as they request. We just tell them that we are not agents – we won't do this because only agents do this, and we are not agents."* [66]

The Russian Government is well known for its highly punitive position in relation to those who question its actions. In 2012 the Russian Government imprisoned the punk band, Pussy Riot. The women said their "*punk prayer*" was a political act in protest against the Russian Orthodox Church leader's support of President Putin. [67] They were sentenced to two years in prison.

In September 2013, 30 Greenpeace activists and journalists occupied the Prirazlomnaya, the first oil platform to start oil production in the Arctic. Activists were threatened at gun and knife point by Russian coast guards. They spent more than three months in Russian detention centres before being released in an amnesty, at the same time as the Pussy Riot prisoners, just before the Sochi Olympics. [68]

As one activist said, *"They didn't lock us up for what we did. They locked us up for what we stood for."* [68]

ACCIDENT RATE AND SAFETY

There is an exceptionally high rate of accidents and occupational illnesses affecting workers in Russian coal mines. In Soviet times there was a safety target of less than one death per million tonnes of coal, which has not been achieved since 1998. Since 2002 the coal industry has claimed 180 – 280 lives a year. [69] Coal mining accounts for 84% of all occupational illnesses in Russia. [70]

Workers suffer from respiratory diseases, most commonly followed by problems with the peripheral nervous system, vibration sickness, and musculoskeletal system, caused by problems from vibration, dust, noise, and physical over-exertion. [39]

Health risks associated with adverse ecological impacts are considered to be the highest for pregnant women and children. In the past decade the morbidity rate among pregnant women in the Kemerovo Region has increased by almost five times, with maternal mortality being twice as high as the average across Russia. [71] This is where two thirds of all Russia coal operations are concentrated. [72]

The cancer rate in the Kuzbass region is also as much as eight times greater than in other parts of Russia. [73] In 2013, 18 miners working for Evraz, a London listed company, died in a mine accident.

CONCLUSION

There is little transparency in the supply chain for coal coming to the UK from Russia, despite more Russian coal being burnt in the UK than from any other source. Sibuglemet which owns Yuzhnaya, mines coal where the village of Kazas was located, and exports it to the UK. The combined impact of mining companies in the area surrounding Kazas has led to devastating impacts on the indigenous Shor people. This picture has been replicated for the Teleut in other areas of the Kemerovo Oblast.

CAN strongly believes that it is the responsibility of the energy companies that burn coal in the UK to give their customers - citizens and businesses - a clear view of where it comes from, and that all of the companies involved in the supply chain should share responsibility for the impacts of its extraction. It is also the responsibility of the UK Government to ensure that the coal consumed in the UK does not cause significant harm to communities surrounding its extraction, and the environment, regardless of where the coal is sourced from.

Aberthaw, Drax, and Longannet power stations have all acknowledged that they burn Russian coal, [74] but they do not make public which mines this coal is sourced from. An analysis of freight train movements in the UK conducted as part of this report (see Part 2 from page 69 for more information) indicates that all of the coal-fired power stations in the UK currently receiving coal by rail, are burning Russian coal.

Although a lack of transparency in the supply chain makes it impossible to follow the coal in a clear line from the point of extraction to the final user, this report has highlighted the likely impacts of the UK's demand for Russian coal. Amongst these impacts are the large numbers of workers killed in Russian coal mines, a result of the exploitative conditions on the mine sites that value cheap production over workers' rights.

COAL MINING IN COLOMBIA

Over the last 30 years, Colombia has become the world's fourth biggest coal exporter. In 2014 production reached 88.6 million tonnes (Mt) of the fossil fuel. [1] This is four times greater than in 1990 when production was 21.5Mt. [2] Over the same period, Colombia's coal consumption has reduced slightly from 4.8Mt to 3.9Mt in 2009.

Coal has been mined in Colombia since the Spanish conquest and used since for generating electricity and metal production. [3] This coal historically came from deep coal mines in the Boyaca and Cundinamarca regions, in the mountainous centre of Colombia. The quantities were small with the majority of electricity generated from hydro-power. In 2013 just 5% of electricity generated in Colombia came from coal.

The Colombian government's goal is to double coal exports by 2021. [4] In 2009, measured coal reserves were estimated at 66,700 Mt which at the current rate of exploitation will keep Colombia producing for another 100 years.

COAL MINING COMPANIES

Over 90% of Colombian coal production occurs in three large-scale open cast mining operations in the northern departments of La Guajira and Cesar. For a list of smaller coal mining companies see Appendix IV.

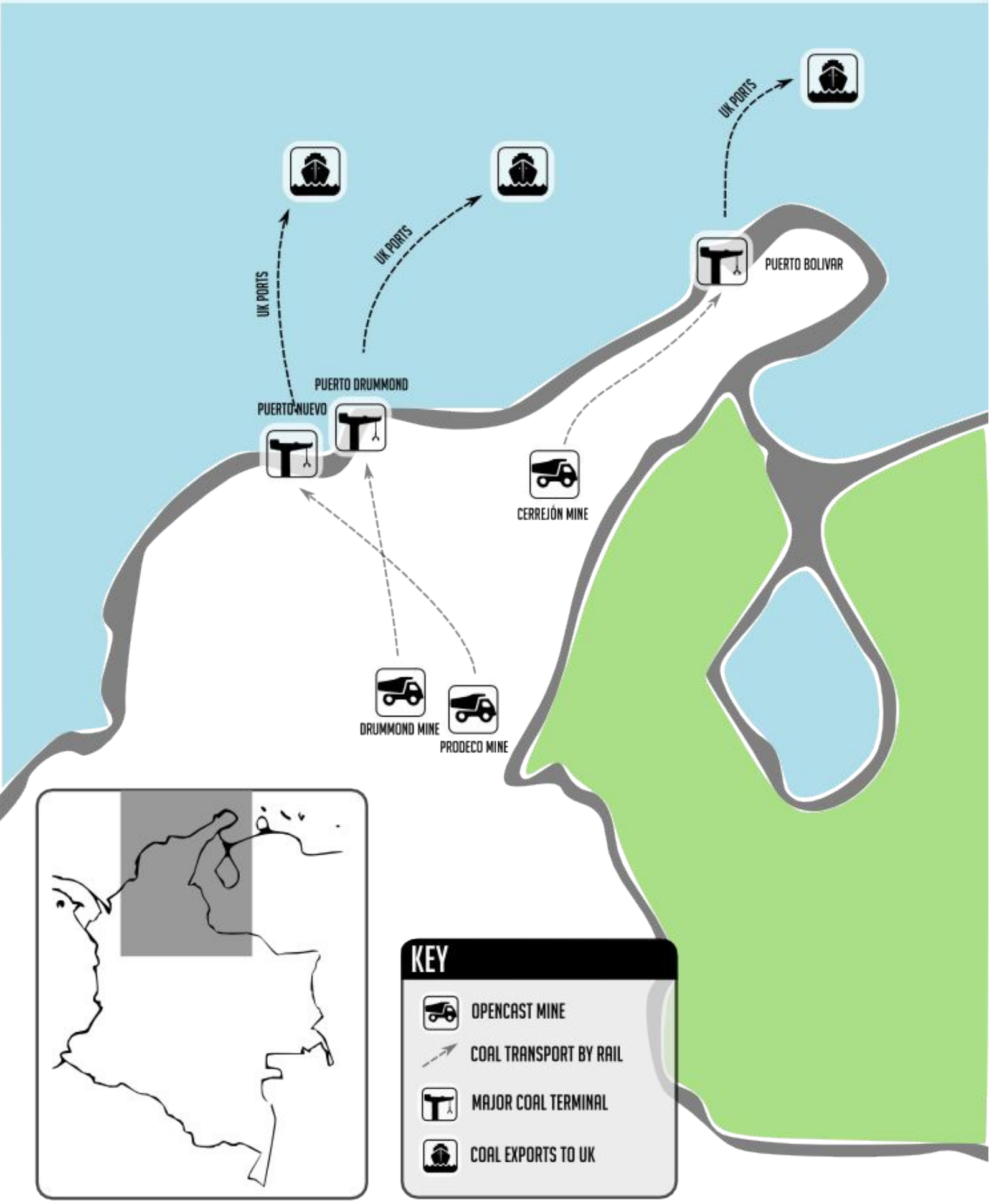
Cerrejón

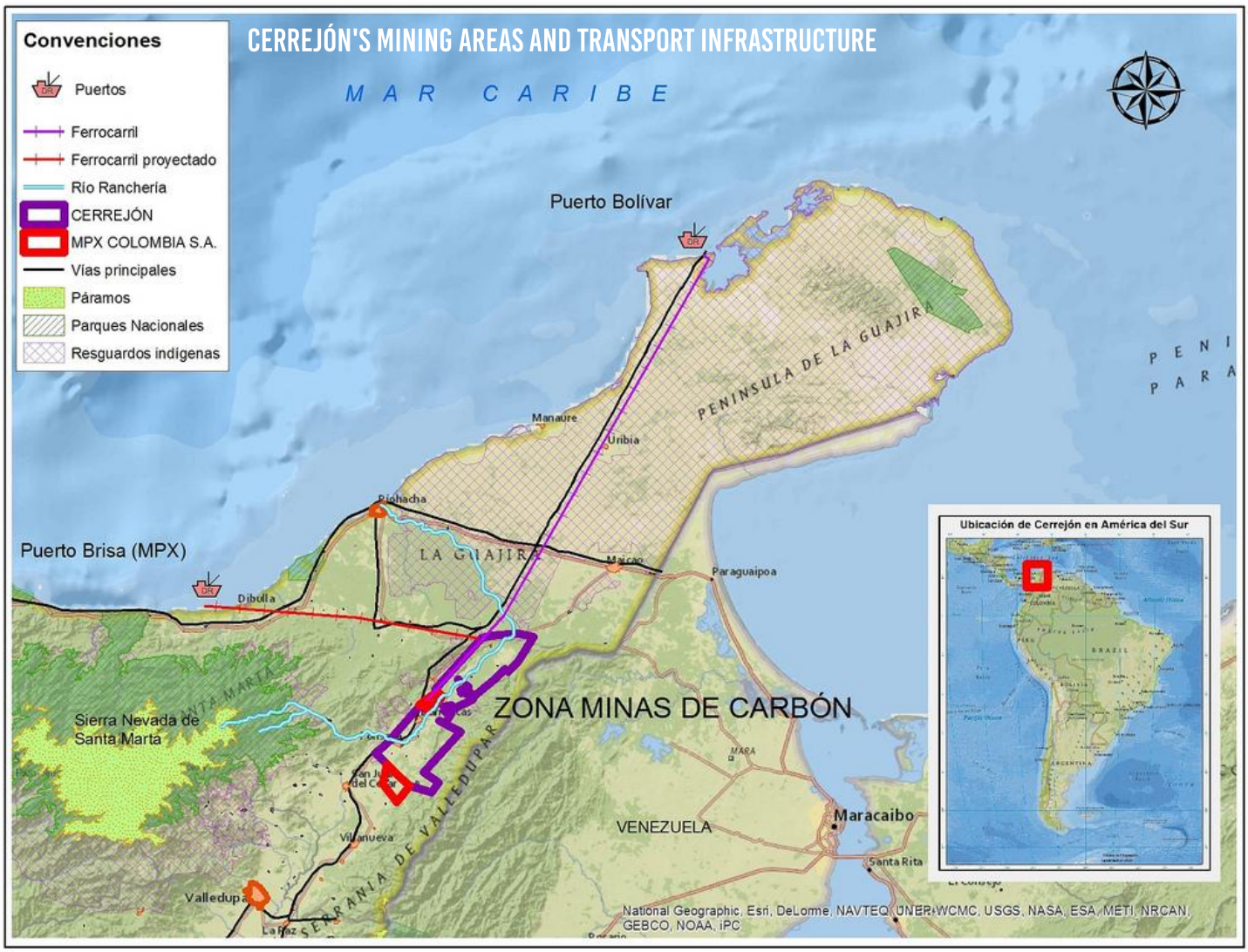
In 1975 a contract was signed between Carbocol, a Colombian state owned company, and Exxon to develop Cerrejón's North Zone. Construction started in 1981 and the mine began to extract coal in 1985 with a production rate of 1.5 million tons. This was Colombia's first open cast coal mine and the beginning of a sharp increase in the country's coal production.

In November 2000, the Colombian government sold its 50% Carbocol stake to BHP Billiton, Anglo American and Glencore International AG. In February 2002, this consortium bought the remaining 50% from Exxon subsidiary, Intercor. In 2012 Glencore merged with Xstrata. The consortium has a contract to operate Cerrejon Zona Norte and Carbones del Cerrejon mine until 2033. A privately owned railway line takes Cerrejón coal to its port, Puerto Bolivar from where it is directly loaded onto boats and exported.

Company	Mines	Port of Export	Production in 2014 (Mt)	Total Production (Mt)
Cerrejón Coal Company (Owned by AA, Glencore, and BHP Billiton)	Cerrejón Zona Norte, Carbones del Cerrejón	Puerto Bolivar	34.4	508.8 1985 - 2011
Drummond	La Loma, El Descanso, Rincon Hondo, Similoa, Cerrlargo	Puerto Drummond (Carbonera Muelle)	26.8	203.06 1995 - 2009
Prodeco (Owned by Glencore)	Calenturitas, La Jagua,	Puerto Nuevo (Carbonera Muelle)	19.5	Unknown

COAL MOVEMENTS TO THE UK FROM COLOMBIA





Drummond

On 23rd August 1988, Drummond signed an agreement with the Colombian government for the mining rights to La Loma mine in the department of Cesar. Prior to this, the private family owned company operated coal mines in the USA, specialising in surface mines and dominating the coal industry in Alabama. Some researchers suggest it opened the mine in Colombia as USA reserves were running low [5] while others suggest it was motivated by cheaper production costs, primarily lower labour costs. [6]

On 10th December 1997 Drummond bought the mining rights to El Descanso mine with a 32 year license. Production began in 2009. By the end of 2009 it had extracted 202.5 million tonnes of coal from La Loma and El Descanso mines. [7] In 2003 it bought Rincón Hondo and Similoa.
It estimates its coal reserves to be 2.2 billion tons, 2 billion of which are in Colombia. [8]

In 2011, Drummond entered into an 80%-20% partnership with Japan's Itochu Corporation, forming

SLAG HEAP AT PRODECO MINE

Drummond International. This partnership financed the construction of a new deep sea port next to its existing Puerto Drummond and is expected to increase export capacity to 60 Mt per year. [9]

Glencore (Prodeco)

Glencore was founded in 1974 by Marc Rich and sold its first bonds to investors in 1996, the same year it acquired CI Prodeco SA. [10] Prodeco is now the third largest exporter of thermal coal in Colombia. It owns and manages two open-cast coal mining facilities in Calenturitas and La Jagua in the department of Cesar.

Prodeco transports coal through the Fenoco train network of which it owns a 40% share. [11] Prodeco own 16 locomotives and 700 heavy freight wagons, a rail transport capacity of 20 to 22Mt annually. They recently built a new port, Puerto Prodeco, from which they can directly load ships.

In 2014 Prodeco posted net revenue of $1.4 billion, 13% of the Glencore's total coal revenue. [12] For Glencore the majority of growth and profits are due to its largest mining assets, which include Prodeco. [13]

COAL EXPORTS TO THE UK

In the first quarter of 2015, coal comprised 98% of Cesar's exports and 92.5 % of La Guajira's. [14] The UK government states that between 2003 and 2014 the UK imported 75,258Mt of coal from Colombia. However, the Colombian Energy-Mining Planning Department makes no mention of imports directly to the UK. [16] Interestingly, instead they list 59,421Mt of coal being exported to the Falkland Islands between 2003 and 2014. [15] During the same period, the Energy Information Centre lists 0 Mt of coal consumption by the Falkland islands. The Falkland Islands are 5000 miles south of Colombia. They are a UK overseas territory and have a reputation for favourable tax conditions, which may explain the contradictory information.

DRUMMOND TRAIN LINE THROUGH PALM OIL PLANTATION

WEALTH OF COAL EXPORTS

It has not been possible for CAN to obtain information regarding the level of profits generated from coal mining in Colombia, only the value of coal exports. In 2013 all coal exports were valued at £443.4 billion. In 2010 Cerrejon sold nearly US$2.500 million worth of coal, Drummond sold US$2.000 million, Glencore sold US$340 million.

It is argued that this wealth transfer to private companies is justifiable as royalties are collected by the State and used for social good. A report by ABColombia recently found that the Colombian government was giving the coal away.

"The extractives sector has a complicated system of tax exemptions awarded to multinational corporations which, according to expert economist Guillermo Rudas, has resulted in Colombia gaining relatively very little in the way of income from the extractives sector. **In fact, in the years 2007 and 2009 the government appears to have paid corporations to take its coal***"* [emphasis added]. [17]

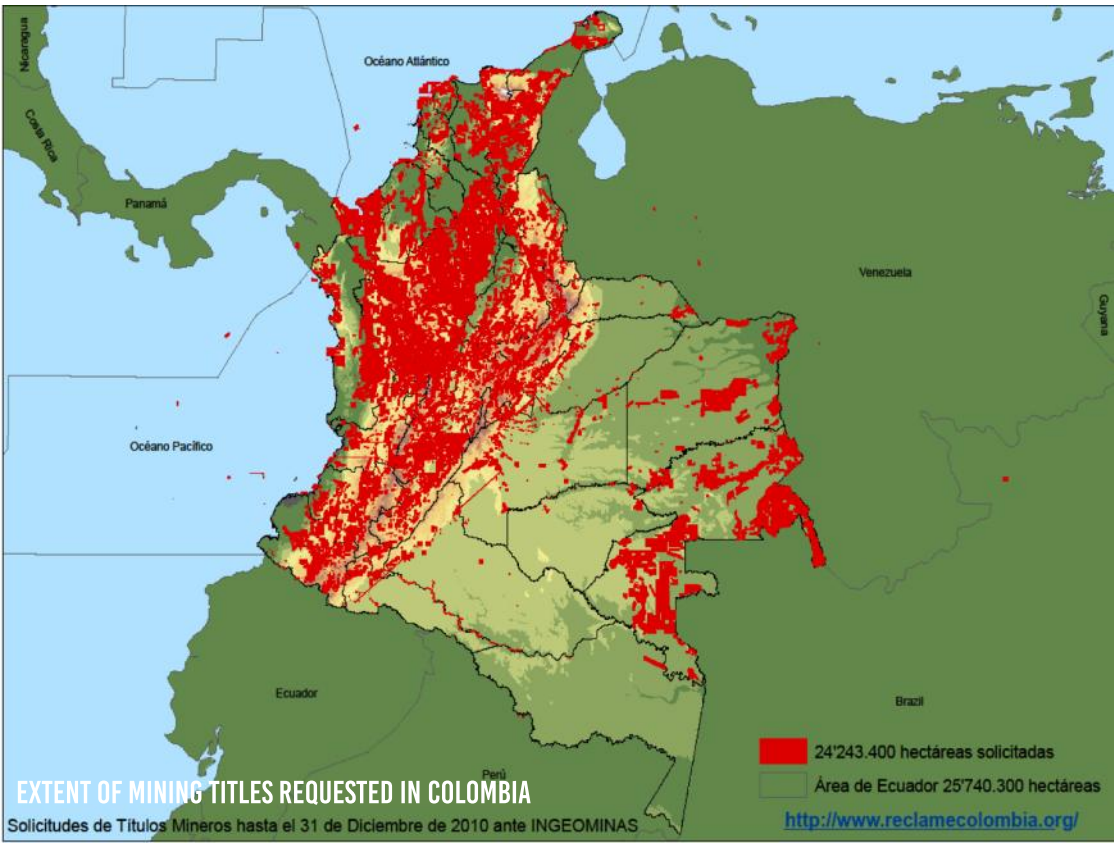
THE MINING BOOM

In 2013 Colombia attracted a record high foreign direct investment (FDI) of £10.8bn. Of this, 46.7% went into mining. [18] The UK is the second largest investor in Colombia after the United States with recorded investments of £10.2 billion between 2000 and 2013.

The rapid expansion of the Colombian mining companies' operations has taken place in the wider context of Colombia's elites embracing neo-liberal economic reforms that has favoured the economic interests of the United States and multinational corporations.

New laws were passed in the nineties that resulted in a large increase in private sector investment, in particular related to mining. [19] Francisco Ramírez, former President of the state mine workers union Sintraeminercol, and now lawyer with the Colombian Trade Union Federation, describes the involvement of different economic interests.

"Sustainable development was proposed, and for this the Colombian establishment, the Canadian government, lawyers of multinationals and war criminals who hide as congressmen, came together to create the Mining Code and environmental legislation. The multinational company set the terms, used their own employees to oversee the environmental management and introduced legal articles that guaranteed totally impunity in environmental disasters." [20]



EXTENT OF MINING TITLES REQUESTED IN COLOMBIA
Solicitudes de Títulos Mineros hasta el 31 de Diciembre de 2010 ante INGEOMINAS

This was demonstrated in 1996 when the Canadian Agency for International Development provided technical assistance to help the Colombian government reform mining legislation. Agents of Canadian mining companies were contracted as experts. Another example is the Mining Code of 2001. This was a collaboration between the Colombian Government and AngloGold Ashanti. [21]

These reforms could not easily be implemented. In the eighties and nineties, peasant farmer mobilisations had successfully stopped similar reforms, demanding social investment in rural areas instead. A military strategy was developed in order to take control of areas rich in fossil fuels and minerals, and to paralyse opposition to this new phase of capitalist growth. The phenomena of paramilitarism has been central to achieving this.

"Peasant farmers no longer face only landowners, but now must deal with multinational capital and its "globalization" model, a model that needs to "clean" territories of "inefficient" people, and they are trying to do this through war. Not only are there displaced people because there is war, but there is war in order to create displaced people." [22] Colombian economist and researcher Hector Mondragon.

In 1997, different regional paramilitary organisations joined together, and supported by big business and large landowners, formed a nationwide paramilitary organisation known as the United Self-Defence Forces of Colombia (AUC). The links to the Colombian state have been well documented by human rights groups over the last 15 years. By using armed civilian groups to invade and take over land, the State could claim impunity for the massacres, selective killings, disappearances, and mass scale forced displacements. This 'Dirty War' against communities, groups, and individuals who are deemed an obstacle to a neoliberal model of development has had impressive results for international capital. US and European corporations, and in turn pension and share funds, have seen their capital grow off the back of mining operations in Colombia.

CESAR

Paramilitarism and Mining Companies

When the AUC formed in 1997, Rodrigo Tovar Pupo, alias Jorge 40, was placed in command of the Northern Bloc which operated in Cesar and La Guajira. In late 1999, Juan Andrés Álvarez Front (JAA) of the AUC was created to operate in the immediate vicinity of the Drummond and Prodeco mines.

There has been armed conflict between the paramilitary and insurgent groups, leading to the latter retreating from the area. However, the paramilitary's actions have been directed primarily at the civilian population with a systematic wave of violence. In 2012, PAX, a Dutch NGO, published a significant, far reaching, and damning report called *The Dark Side of Coal*. [23] They conservatively estimated that the JAA had 600 soldiers, and over 7 years were responsible for the following:

- 2600 people assassinated
- 500 people killed in massacres
- 240 people disappeared
- 55000 people forcibly displaced

PAX hopes the report will contribute to the efforts to uncover the hidden truth behind the violence and achieve an effective remedy for the harm people have suffered. The report draws together testimonies from ex-paramilitaries, ex-employees of the mining companies, victims of the violence and human rights lawyers:

- An ex-security employee and an ex-paramilitary commander testify that the security departments of Drummond and Prodeco played a key role in setting up the first contact between the paramilitaries and company executives, which led to the establishment of the JAA Front.

- Four different sources give details about the relationship between paramilitaries, and Drummond and Prodeco, and the collaboration of the Colombian military.

- Nine different sources state that between 1996 – 2006 Drummond gave substantial financial support to the AUC.

DRUMMOND STOCKPILING AT THEIR PORT

• Drummond and Prodeco have denied the allegations and refuse to acknowledge the point that even if they are innocent as they claim, they did not intervene despite knowing about the level of paramilitary violence in the region and have subsequently benefited from this systematic terror:

• There are at least three cases of forced displacement happening in land that is now within the concessions of Drummond and Prodeco, or near.

• The selective murder of mine workers, trade union leaders and the continued threats against other unionists has weakened the unions in the region and allowed the companies to avoid improving the working conditions within the mines.

• The violence has silenced critical voices within the local communities and in wider civil society from denouncing the human, social, and environmental consequences of mining.

Community Struggles against Mining Occupation

Beyond the extremes of violence, there has also been a day-to-day occupation. Cesar had previously been a farming area, where economic and social practices were entwined, particularly for indigenous and Afro-Colombian communities. The large industrial mining operations have brought a different set of values to the area. People talk of materialism, wage labour, competition, increased sexualisation of women and children, and more rigid control of gender roles. The paramilitaries in particular have imposed a social order over the social lives and sexuality of women. [24]

La Sierra is an Afro-Colombian village 25km south of the La Loma mine. They have been trying to maintain their cultural practices and relationship to non-human nature, rather than get sucked in to these new alien values. This is going to get tougher. In March 2015 the

government gave the permissions required to open the Rincon Hondo mine. [25] This mining zone will extend right up to La Sierra.

Nubia, a member of La Sierra Community Council, spoke to CAN about her love for the land, the ignorance of the mining companies and how the fight to stop the mine must involve everyone.

NUBIA MARIA FLORIAN DITTA, MEMBER OF LAS CRUCES COMMUNITY COUNCIL CHIRIGUANÁ


NUBIA MARIA FLORIAN DITTA

"As a child when I wasn't at school I went every day to the farm where my grandparents grew sugar cane, plantain, and cassava. All we took was salt and a pot to cook lunch in. There was plenty of fish in the rivers.

In our village there used to be more unity. If a pig was slaughtered they would share it with everyone, and be left with very little. It was a healthy and peaceful life. We have 800 hectares of collective land. People used to have one or two cows there. They also collected wood. The mining companies arrived, convincing people that this way of life is a dead end.

The reports the company and government do about the mine don't show the reality of the communities. The mines invade our culture. The workers buy our young women, they want to have a Drummond boyfriend who will buy them a blackberry or designer clothes. There are also drug addictions that alter peoples' minds.

They bring workers from elsewhere and don't employ local people because we have not had the opportunity to train. Young people say they want to work in the mine because of the money. The mines want young people to work there because they have less health problems. But they sack them if they get ill. And when they leave they have lost years off their life. [26]

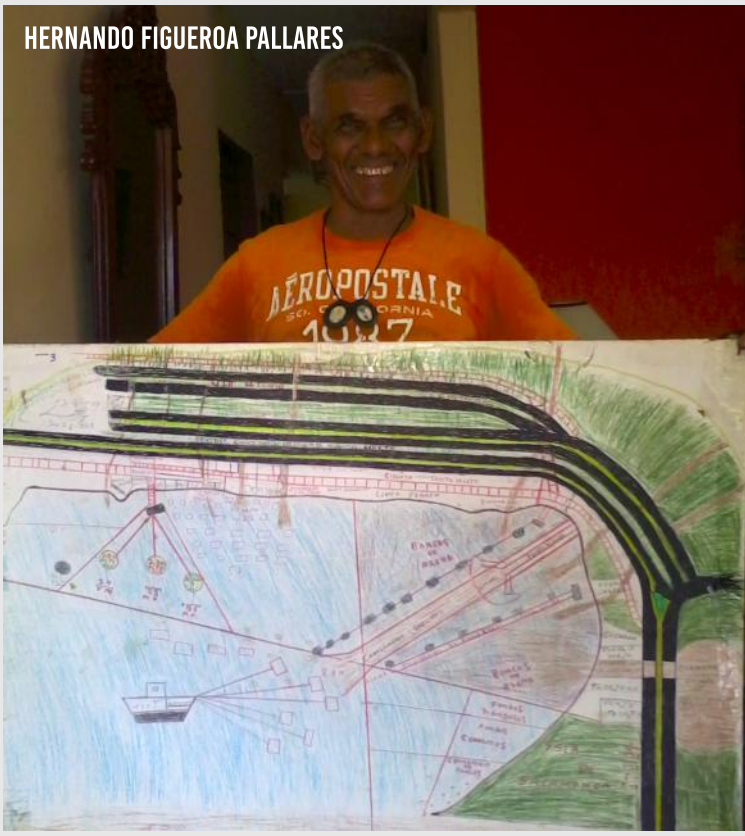
The companies talk about voluntary displacement, but it is forced displacement. At the moment they are evicting people from Boquerón. [27] We are worried. We are fighting to get land titles for our collective land. This will help us protect our ecosystem as they push to expand the mine.

I have lived in the cities, you are charged for everything up to your footsteps. Here, even if I fight with my neighbor, if something happens to me, they will help. We are worried about our older people, someone with 80 years who was born in this territory, if they evict this person, this spells death. For them, it is as if we are a field of cows that they can move around."

A few hours to the north, coal is piled up at Puerto Nuevo (Prodeco's Port) and Puerto Drummond. waiting to be loaded on to ships. The region to the west of these ports is a fragile, beautiful extensive ecosystem of swamps and lakes. To the north lies the town of Santa Marta. Around the ports are small former fishing villages, including Don Jaca, now ghosts of their former selves. Fishing has become near impossible because of the ports, and people live in poverty with very little work. They have not seen any transfer of wealth through royalties from coal.

Hernando had lived there his whole life until he had to flee after an assassination attempt. He has become yet another internally displaced person. Two years later he is still living in hiding.

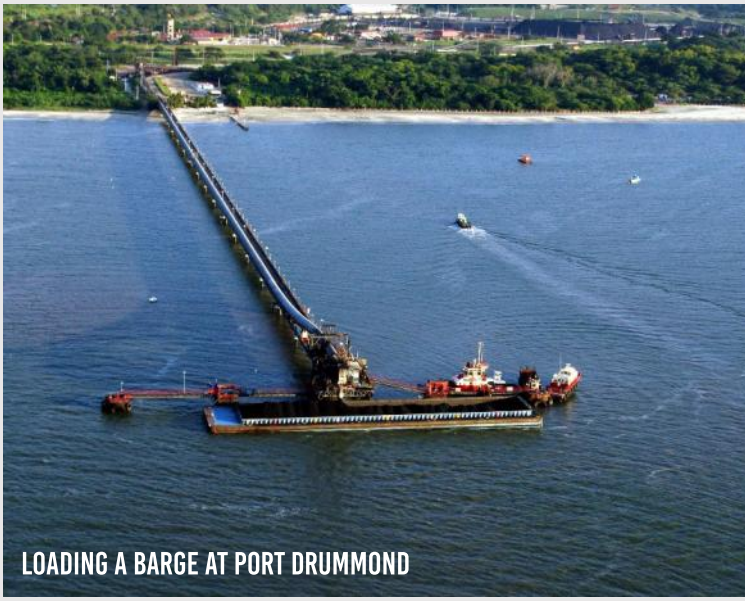
HERNANDO FIGUEROA PALLARES, DON JACA VILLAGE, SPEAKING OUT



"I am President of Don Jaca Community Council. My name is Hernando Figueroa Pallares. My problem is the following. On the 13th January 2013, Drummond was loading offshore at buoy 7. There was a bad manouvre and the water began to come over the barge. The water began to sink the barge which was loaded with 3000 tonnes of coal. When they realised what was happening, the supervisor gave the order. Using a crane, they began to throw the coal in to the sea so the barge didn't sink. They offloaded enough coal to stabalise the barge. They threw 500 tonnes on to the sea bed.[28] This all happened around 2am.

The Captain of the port must have been there as he is permanently patrolling the area. It is a security zone, they don't let anyone near. When we want to fish there, their boat arrives and kicks us out.

The 14th, 15th, 16th, 17th went by and nobody knew. On the 18th I was called and told what had happened. I went to talk with the Port Captain to see what he knew. I know him. Captain Segura Navarro. Nothing happened he told me. It is a lie he said. I talked again with my contacts who had called me. They said they had photos but didn't dare show the photos. I told them I would publicly show them.


LOADING A BARGE AT PORT DRUMMOND

At 5pm on Friday 25th I did an interview for a Santa Marta TV channel. I told them that I had information that there had been a coal spill in to the sea; that nearly 500 tonnes had sunk and nobody had taken responsibility for it, nothing. The journalist asked me what I was going to do about this problem. I had evidence and I said I was going to take it on Monday to the regional government office.

The interview went out on the TV at 10am on Saturday morning. That Saturday I left my house at 9.30am and went to the union office. I returned home about 6.30pm. I took off my t-shirt, put on my flipflops. I ate and when I finished eating I went out to the yard to rinse my mouth. In this very moment a man arrived wearing a balaclava. Where is the Señor? Ernestina said that I wasn't here. He was in the entrance of my house with a gun in his hand. He came in, looking around for me. He came out in to the yard but he didn't see me because it was dark. He had the gun ready. I though if I leg it he is going to kill my wife, so I decide to see what god's will is. Without my shirt on, I shout and run at him. The first bullet enters me in the lung. I jump on him, grab hold of him. Two more bullets fire but miss. He hits me again with the fourth bullet. He didn't kill me, that was god's will.

This was Saturday evening. I was in a bad way. Three days laters, I woke up in a clinic. In the meantime there was a big scandal."

The assassination attempt against Hernando took place in the wider context of grave human rights violations against people who are leaders in the struggle to protect communities and nature from multinational companies.

In this case, because of Hernando and others' bravery, the environmental catastrophe could not be sunk like the coal, and it received national and international attention.

COAL DUST AND NEW PORTS

"Ten years ago the Don Jaca community began a campaign for there to be better handling of coal in the port. We wanted them to load directly rather than use barges. Drummond is the largest exporter of coal in Cesar and they were taking the coal on barges 9km out to sea where there was a depth of 25–30m. There they loaded it onto the boats.

They pile the barges up high, two to three hundred tonnes above the allowed level. The barge heads out to sea. Here the breezes comes west to east, from the sea on to the land. There are months when the winds are stronger. The wind combs the top of the coal pile. Hundreds of tonnes of dust have been carried and dropped by the wind. Drummond has been here 22 years, Prodecco 24 years, both loading coal with this system. Don Jaca was between the two old ports. There are 200 children in Don Jaca and all with flu. This is the problem with coal – the particles stay in the lungs. They don't dissolve.

Many feasibility studies were done into direct loading. Years went by until in 2008 there was a much better price for coal and the government was interested in building a port where more coal could leave. In 2008 we wrote an agreement with the Santa Marta City Council and all the Ministers signed it. The companies were told to load the barges to a flat level until they built the new direct loading port. They did this for three months and then began to pile the coal up high again.

The communities wanted them to build the new port where Prodeco use to have its old port. There were a series of favorable factors in building the port there. The government invented a plan to build Puerto Nuevo in its current location. Who knows what economic interests there were? Why did they want to put the port there? The water is only 7m deep. So what did they do? They have dredged a channel 16m wide and 25m deep. They dredged more than 10 million cubic metres of sediment. There is no stone, no sand, just mud. Boats now enter this channel to load.

We fought since 2008: it won't work there we said. But they did it nonetheless. They dredged between 2009-2011. I don't know where they have put the sediment. But my knowledge is that there is coral out there and that it will have been damaged. [30] This has not been said even though the Ministers know it.

We have seen the beaches going, this is one of the grave problems caused by the dredging. Overtime the channel is going to be infilled and they will have to dredge again."

LOADING COAL SHIP FROM A BARGE

Subsequently Drummond was fined £1.5million. 15 days before the coal spill, the Colombian government was ordered to pay ten times this amount to Drummond. The company has sued the State 30 times so far. [29] Hernando has been involved in holding Drummond and Prodeco to account for over a decade. From his safe house, he is much less able to continue this work.

La Jagua de Ibirico

In 2007 the people of this mining town began a strike to demand that Drummond and Glencore AG ceased their environmental contamination. They called for jobs, dignity, and respect for their lives.

"For several years [we have] been suffering from contamination produced by mining operations and transport of coal from the mines of Glencore A.G. and Drummond, and from unemployment, pulmonary illnesses of children, poverty and the military-paramilitary presence which has accompanied the arrival of the transnationals and which has produced grave human rights violations. Because of this, two days ago the residents decided to carry out a peaceful protest to block the roads which enter and exit the town.

Today, in an act of savagery characteristic of a fascist regime, the riot police violently attacked the march, murdering Manuel Celiz Mendoza, aged 42 years, and critically injuring Laura Valentina Palma Ortiz, 13 years, Gabriel Enrique Gomez, 22 years, Neger Robles, 28 years (shot in the hip), Huges Coronel, Yely Karina Fonseca, 13 years, and Jaio Diaz [age unknown]. Also in critical condition is a two month old baby girl, Yesi Liced Guerrero." [31]

The link between testimonies where people directly link multinationals to paramilitaries are not common. The PAX report is the exception. The people who were present at key meetings between paramilitaries and multinational companies decided to testify about what they witnessed and were part of. This is rare as the risks are high for those who do. Over time more information may become available about the details of links between paramilitaries and other corporations operating in Colombia.

LA GUAJIRA

"The economic model based on mining fossil fuels is an irrational use of a common good. It is a violation of the rights of all forms of life and that of Mother Earth. It causes a breaking up of the vital relationships between society and nature." [32]

The population of La Guajira was 42% Wayuu in 1995. The Wayuu are an indigenous group who have resisted and survived 500 years of colonisation but are now

HOUSES WITH SLAG HEAP IN BACKGROUND

CERREJON'S PUBLICITY IN ROCHE: "COAL FOR THE WORLD, PROGRESS FOR COLOMBIA"

COMMUNITY MEETING IN TAMAQUITO

"MINING AREA. HIGH ACCIDENT RISK ZONE - NO ENTRY TO NON-AUTHORISED PEOPLE"

facing cultural genocide as a direct result of the presence of mining companies seeking profits. The Cerrejón mine lies in the middle of their ancestral land and the Company's heavily militarised train line divides their territory.

When mining companies first arrived, there was optimism that they would bring positive change.

"Many people had hopes with the arrival of the mining companies because we were going to see lots of development in the communities and employment. Everything could change for the better. But it turned out differently. We got it wrong." [33]

30 years later the deterioration of the ecosystem, including cultural, and social damage, is so great that social movements are coalescing and beginning to call for a moratorium on mining in La Guajira. There has been no prior, free, and informed consent, either at the beginning of Cerrejón's activities nor around the current planned expansion of Cerrejón which includes the diverting of the River Ranchería.

In response to this current situation, the Wayúu communities of Provincial and Tamaquito II decided to organise their own autonomous consultation. They wanted to communicate and collaborate with Afro-Colombian and peasant farmer communities, who are also living with the consequences of coal mining. They chose to use the framework of the Peoples' Tribunal, a mechanism for building popular justice when achieving justice through the State is impossible.

From 7th - 9th August 2014, people from across the region and beyond came together over three days to discuss, share experiences, visit former sacred sites and make visible the accumulated damage caused by Cerrejón. 9th August was a significant date as it marked the 13 year anniversary of the violent eviction of the Afro-Colombian community of Tabaco. During the same period there was a serious drought in Colombia and the communities in resistance wanted to intervene in the national debate to show the link between climate change, drought, and fossil fuel mining.

The ruling of the Peoples Tribunal reflects some of the experiences and analysis of the participating communities and judges. Political acts such as this are expressions of a desire for self-determination; the act of understanding and naming ones own reality rather than having it defined for you by others. We support and amplify this by translating and sharing it here:

Excerpts from the Sentence of the Political and Ethical Tribunal: Mining Attacks in La Guajira

The expansion of the mining project in the nineties brought with it the displacement and destruction of villages including Caracolí, Manantial, El Espinal, Tabaco, and so-called relocation of communities including Roche, Chancleta, Patilla, Oreganal, Tamaquitos and Las Casitas. The expropriation and evictions were carried out by Cerrejón using intimidations, forcing the communities to hand over their land for laughable prices, abusing their dominant position, and relying on the complicity of the State authorities.

"Remembering the pain makes us stronger. Looking back motivates us to continue forward. To find out the truth of what happened and what continues to happen compels us to demand justice." [34]

This situation led to divisions within the communities, rupturing of the social fabric and cultural ancestral traditions.

Some families (in Roche, Patilla, and Tamaquito villages) continue to resist and stay in their territory, despite adverse conditions due to contamination, lack of access to water sources, and increasing confinement (as the mine buys up more land).

Cerrejón has evicted the communities of La Guajira from their ancestral lands. This has meant they have lost their ways of life, their understanding of the world, their ancestral knowledge, their cultural practices, their desires, and dreams, their spirituality, their cemeteries, their food, their land, their houses, their neighbours, the water, the woods, the clean air, their tranquillity, their ideas for the future, their hopes, their gods, their way of carrying out justice, their language, their understanding of a dignified life.

"When they destroyed the village of Tabaco things got economically harder for us in Tamaquito. They blocked roads going through Tabaco towards Maracai and Venezuela. We didn't have a school or a health centre here. We studied in Tabaco so when it was destroyed our education and health was affected. The cultural exchange ended. All of this social and cultural context, our friendships, it all got finished when Cerrejón destroyed Tabaco."

Cerrejón's arrival initiated a process of privatisation and militarisation of the territory which restricted the right to free movement of the indigenous people. Food sovereignty, traditionally sustained through hunting, fishing, herding, and planting of medicinal plants has been lost. Many places where communities carried out their social life have been destroyed which in turn has destroyed social relationships. The possibility of using ancestral places for socialising, falling in love and conflict resolution has gone. These activities used to be part of everyday life. At least five indigenous communities have disappeared with their inhabitants dispersed.

"I think that we have to tell the world that they are exterminating a community and we cannot continue to allow this to happen. They must leave this place because there are no longer the necessary conditions for life here. But the mine continues, the exploiters continue taking the coal, they keep making the hole, the exploiters continue destroying the beauty of this place. It can't be like this"

The communities were not consulted over whether coal mining was appropriate.

"The mining project left us poor because it left us with no land"

Autonomy and self-sufficiency, and the right to self-determination have been taken away.

"Instead of planting development, what they grow is poverty and death"

Access to water is a serious worry in the communities given that life can't exist without it. The mine has privatised many rivers and streams, which have then become contaminated and dried up. Many wetlands now no longer exist, including Aguas Blancas, Araña e'gato, La Trampa, El Potrero, La Vaca Muerta, Laguna Pañales, Laguna de Chivato, Roche. Meanwhile Cerrejón uses 17 million litres of water a day for the spraying of their road, while communities don't have access to water sources and are forced to use contaminated water that makes them sick.

"The river is totally contaminated. All the residues from the mining go straight to the river. You can't use the water. The company says there isn't contamination but there is, we know this because we see it."

There is much concern about the plan to divert the river Ranchería, the major river in the region, and the Bruno Stream that provides fish to the communities. Both are sources of water for African, indigenous, and peasant farming communities.

"If they divert the river, what will be left for us? What will we drink? What will our animals drink? They will be left without water. We are not in agreement with the diverting of the river."

The mine workers trade union spoke about the precarious labour conditions and health conditions of the workers.

Social movements in La Guajira, with the support of allies, have won the battle to halt the mass redirecting of the Ranchería river. The Company is now trying to do it stream by stream, section by section. The larger battle to halt the expansion of Cerrejón continues on.

CONCLUSION

The arrival and growth of coal mining in Colombia has been facilitated by the militarisation of the regions, including the use of paramilitaries. This military control has led to gross human rights violations including disappearances, massacres, select assassinations, and forced displacements. Communities, having lived through this, have also been deeply affected by the environmental contamination from the opencast mines. Communities living around the mines have experienced a consumer culture imposed on them that undermines their cultures of solidarity and connection to land.

There are tensions between the need for employment for livelihood, and land for sustenance, and often the needs of workers are deliberately pitched against those of communities, to weaken struggles for justice around coal extraction. There are, however, inspiring examples of coalitions of workers and communities organising to prevent coal mine expansions.

Increasingly, Colombian society, both locally and nationally, is acknowledging the environmental and social cost of coal mining and is calling for coal mining licenses to be revoked. More broadly, there is a growing movement to resist the capitalist growth economy that depends on intense natural resource extraction, and to build alternative models of food sovereignty, agro-ecology, and participatory democracy for the benefit of all.

THE RANCHERIA RIVER

PROTEST AGAINST THE DIVERSION OF THE RANCHERIA RIVER

COAL MINING IN THE USA

Every day coal is transported along the USA's rivers, roads, and railways. The majority is used domestically. Only 12% of the total extracted is exported abroad. [1] The USA also imports coal for domestic use. The UK and Netherlands were the biggest importers of USA coal in 2013 and 2014, [2] with European imports of USA coal doubling since 2008. [3] From August 2014 to July 2015, 24% of all coal imported to the UK came from the USA. [4] Of this, over 70% was thermal coal for use in coal-fired power stations. [5]

In this section CAN has looked at the supply chain for coal coming from the USA to the UK by starting at the ports exporting coal to the UK, according to Energy Information Administration (EIA), and looking at the activities of the companies associated with the ports. Of the 7 ports the EIA identifies as exporting to the UK, Detroit, Houston-Galveston, and New York City have been omitted from this report as the quantities accounted for less than 2% of the total leaving the USA for the UK. [6]

The damage caused by extracting and transporting coal is extensive, including the destruction of entire mountains through Mountaintop Removal, the collapse of vast areas of countryside through longwall mining, rivers becoming choked by coal dust, and the impacts on the quality of life of people living alongside the transportation routes. The reoccurring coal story in the USA is one of water pollution and community resistance.

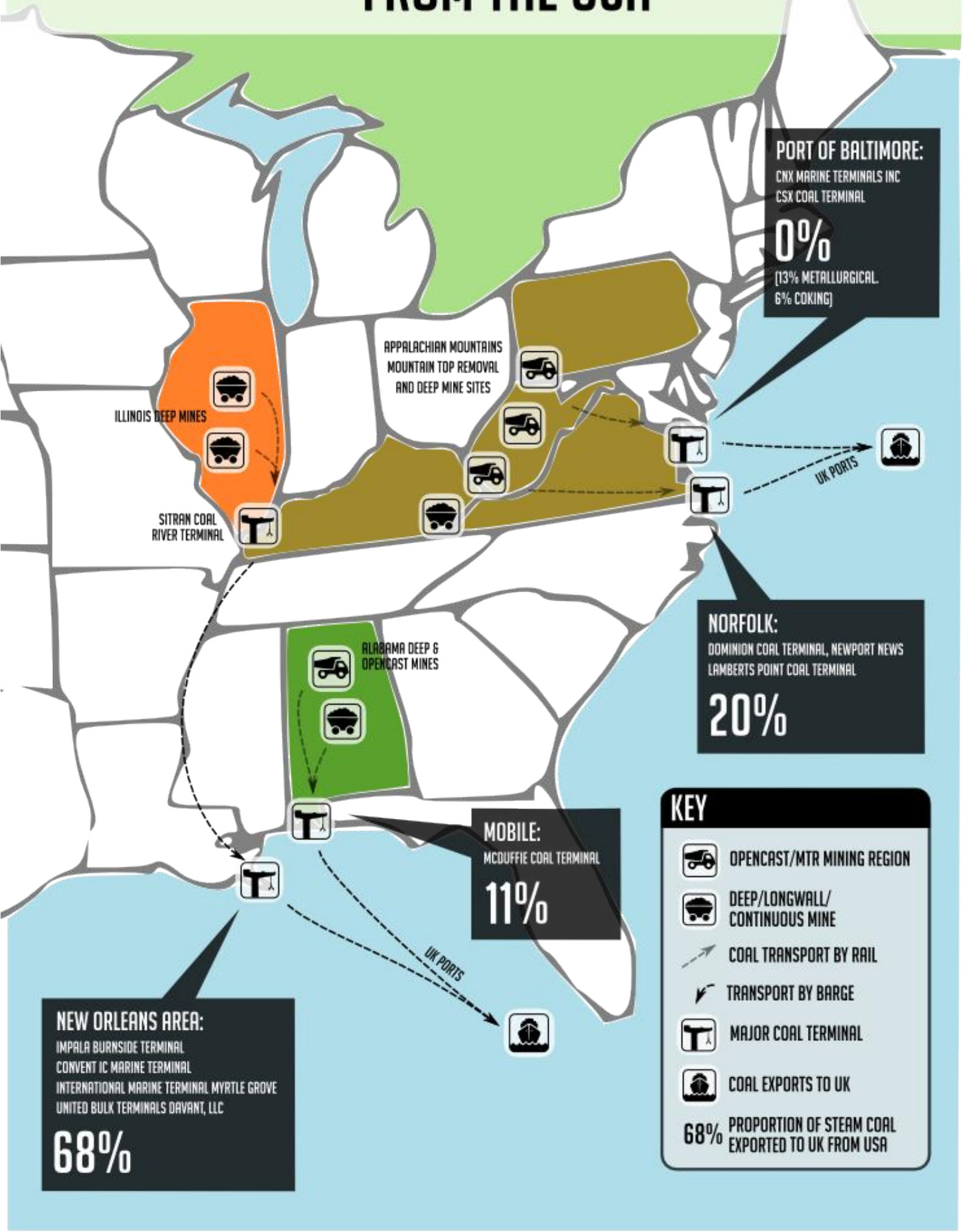
This research is by no means comprehensive or complete. The cases described were neither chosen because they are examples of good practice nor the worst, they are simply those with information in the public domain. The methodology for this section is described in Appendix I. CAN feels that this is useful as it gives general trends of working practises and community resistance to mining for coal which reaches the UK's shores from the USA.

COAL SLUDGE IMPOUNDMENT. SOUTHWINGS.ORG

USA GOVERNMENT POLICY ON ENERGY

The USA government's phased closure of coal-fired power plants, increases in energy efficiency, increasing use of natural gas (which releases less CO_2 than coal) and transition to renewables, means there is less domestic demand for coal. The coal mining companies are therefore looking to boost exports and build new infrastructure to bring coal out of the USA. The victories that the Obama administration are claiming by reducing green house gas emissions by 10% between 2007 and 2013 [7] ignore the fact that this same coal is

COAL MOVEMENTS TO THE UK FROM THE USA



now being burnt abroad. Coal from the USA is attractive to the UK as the international coal price is low, making the expense of shipping the coal financially viable. The consequences for people living in the USA's coal producing areas as well as throughout the whole transport system are severe.

"In 2013 alone, coal shipped from here for foreign power plants contained 48 million tonnes of carbon dioxide, pollution that could come back to haunt this city [Norfolk, Virginia]. The sea level here is expected to rise an additional 1.5 feet in 50 years, even if the world stops releasing carbon dioxide into the atmosphere tomorrow." [3]

PORTS

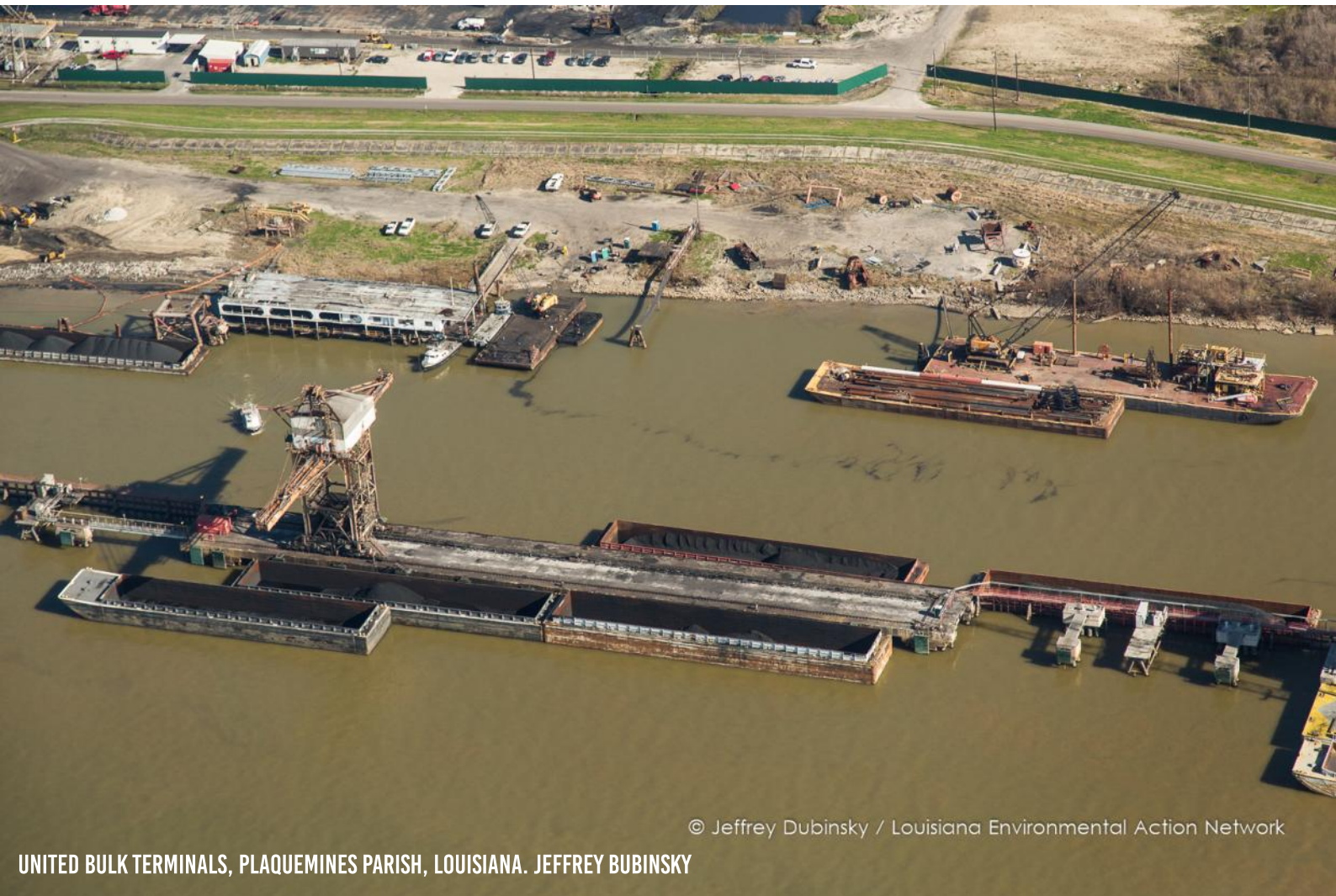
New Orleans, Louisiana

51% of USA coal exported from the USA to the UK comes from New Orleans terminals. This is 68% of the total thermal coal and 7% of the total metallurgical coal coming to the UK from the USA. [6] There are three coal terminals exporting coal from New Orleans and two on the Mississippi River nearby. [8] A proportion of the coal coming to the UK is coming from the Port of Davant, New Orleans. [9]

There have been contamination issues in the New Orleans terminals. In March 2014, environmental groups filed a federal lawsuit in New Orleans against United Bulk's coal export facility in Plaquemines Parish, alleging that the facility had been polluting the Mississippi River. In their lawsuit, the NGOs Gulf Restoration Network, Louisiana Environmental Action Network, and the Sierra Club alleged that the terminal discharged hazardous coal run-off and petroleum coke into the river every day that it operated for at least the past five years, and that those discharges had violated the federal Clean Water Act. [10]

RAM Terminals, another coal port operator, planned to increase coal port capacity in New Orleans by building another coal terminal. After several years the community successfully fought off the proposal. Their concerns centred on the devastating impact that another coal terminal would have had on water quality and wetland restoration projects, as well as impacts on local residents. After the permit for the terminal was revoked, Devin Martin who organises with the Sierra Club said:

"Preserving the unique history, heritage, and natural resources of places like Ironton, Gretna, and our coastal marshes over the short-sighted interests of an out of state coal



UNITED BULK TERMINALS, PLAQUEMINES PARISH, LOUISIANA. JEFFREY BUBINSKY

RAVEN ENERGY CONVENT MARINE TERMINAL. JEFFREY BUBINSKY

company is something that we can all agree on. We are glad to see that the district court agrees." [11]

The proposed RAM coal terminal would have been the third in close proximity to Ironton which is a predominantly black town, founded by freed men. It has an oil refinery and oil tank farm, and there are already two coal export terminals within five miles. Local residents talk of the air pollution which clogs air filters and prevents them drying clothes outside. This community has long suffered from racism and a lack of empathy from those in power, but succeeded in this fight for the right to a healthy life. [12]

Convent Marine Terminal, New Orleans, is owned by Raven Energy, an affiliate of Foresight Energy. In 2015 Murray Energy acquired a significant economic interest in Foresight Energy. Murray is an Appalachian coal mining company and one of the largest coal producer in terms of annual USA coal production. [20] Foresight operate three longwall systems and have the potential for 6 more in the Illinois coal basin. The mines are linked to their domestic customers and export facilities via road, rail, and river barge. [21]

Foresight Energy's Deer Run (Hillsboro) longwall mine has created many problems for the local community who have set up Citizens Against Longwall Mining. They describe themselves as a group of central Illinois residents who have been fighting the Deer Run Coal Mine in Hillsboro, Illinois since 2004. They oppose the mining of coal using longwall and other techniques that rely on planned subsidence.

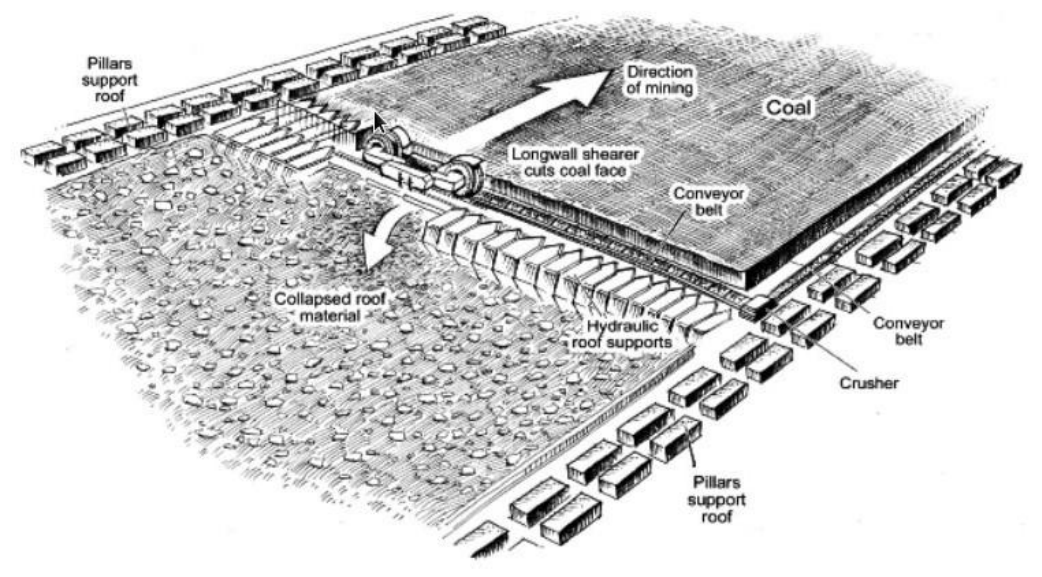
"We are opposed to coal mining practices such as longwall mining that destroy our fertile farmland, as well as coal ash and coal slurry disposal methods that threaten the health of our communities, lands and waters." [22]

Like many communities in the USA those living in central Illinois are concerned over the impoundments. Impoundments are artificial lagoons of toxic sludge from coal mining operations. The material which fills them comes from washing the coal to make it burn more efficiently. In other places the sludge is deposited in abandoned mines.

Citizens against Longwall Mining describe the problems thus: *"Montgomery County pays the price. Dust*

MINING METHODS

Longwall Mining

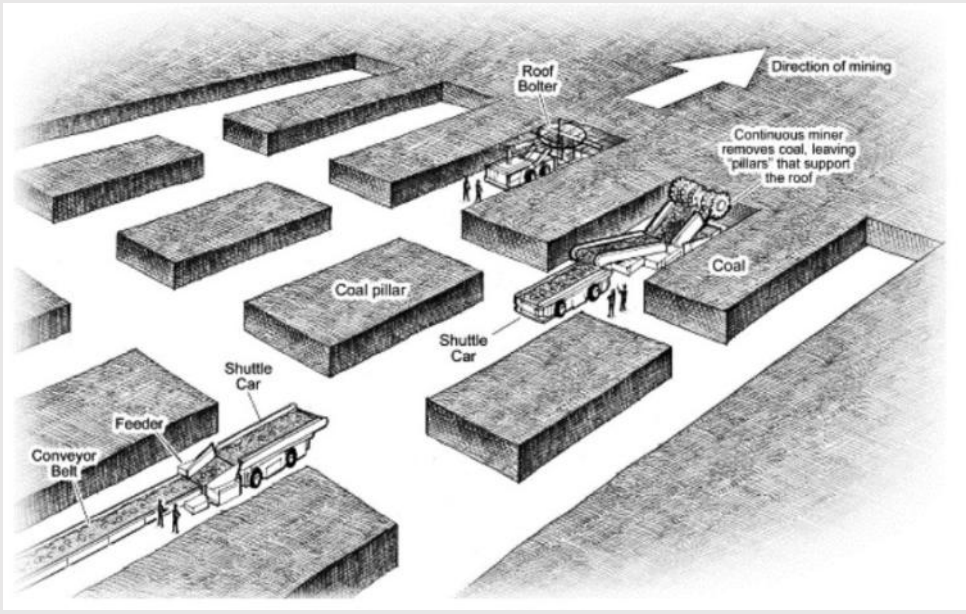


Longwall mining removes all of the coal in a seam, initially leaving the material on top which is called overburden. The overburden is then intentionally collapsed after the coal is extracted, in a process called planned subsidence. This is highly destructive above ground, but as it removes up to 80% of the coal it is attractive to coal companies. [13] For a coal seam approximately 7.5 feet thick, on average the ground level would fall 3.75 to 4.5 feet. [14] The collapse at ground level is not uniform and causes significant problems, including soil erosion and ground water depletion.

The houses on top of potential coal mines are often bought by the mining companies before the area is mined, so that companies do not need to worry about damage to homes. This has a great effect on the people living in coal fields. The terrain and water systems around the mines are also affected. In Illinois 53% of coal was mined using this method in 2005, [16] which reflects the proportion of longwall mining used in the US as a whole. [17]

As the longwall mine advances and is intentionally subsided it alters waterways, dropping the level of streams as well as roads, fields, houses, and trees. These unnatural water diversions affect the water table, which is compounded by the high water use associated with this type of mining. The mines use water to prevent explosions and enable people to work in them. To control dust levels and friction in the mining process, longwall mines pump in around 180 gallons of water per minute for each longwall machine, amounting to 259,200 gallons per day, just to operate the machinery. This equates to more than 93 million gallons of water at each mine every year, for the entire life of a mine, a period which can exceed 20 years. [18]

Continuous Mining



In continuous mining most of the coal is removed from the mine, but sections are left in place to prevent the overburden from falling down and collapsing. Typically 60% of the coal is recovered, but there are many factors affecting the exact quantity. [19] As the overburden does not fall into the gap created by removing the coal there is far less damage at surface level.

MOUNTAINTOP REMOVAL

Mountaintop removal is an incredibly damaging mining method. It began in the 1970s in Appalachia. Primarily, mountaintop removal is happening in West Virginia, Kentucky, Virginia, and Tennessee. Coal companies in Appalachia are increasingly using this method because it allows for almost complete recovery of coal seams while reducing the number of workers required to a fraction of what conventional methods require. [35]

Mountaintop removal is extremely destructive. After clear-cutting the forests, mining companies push millions of tonnes of waste rock and topsoil into the valleys below, permanently burying streams. Many of these mined areas are also the source of drinking water for millions of people. Over 500 mountains in Appalachia have been destroyed. This devastating practice poisons drinking water, lays waste to wildlife habitat, increases the risk of floods and endangers local communities. In a 2005 environmental impact statement, the Environmental Protection Agency found that mountaintop removal mining had already:

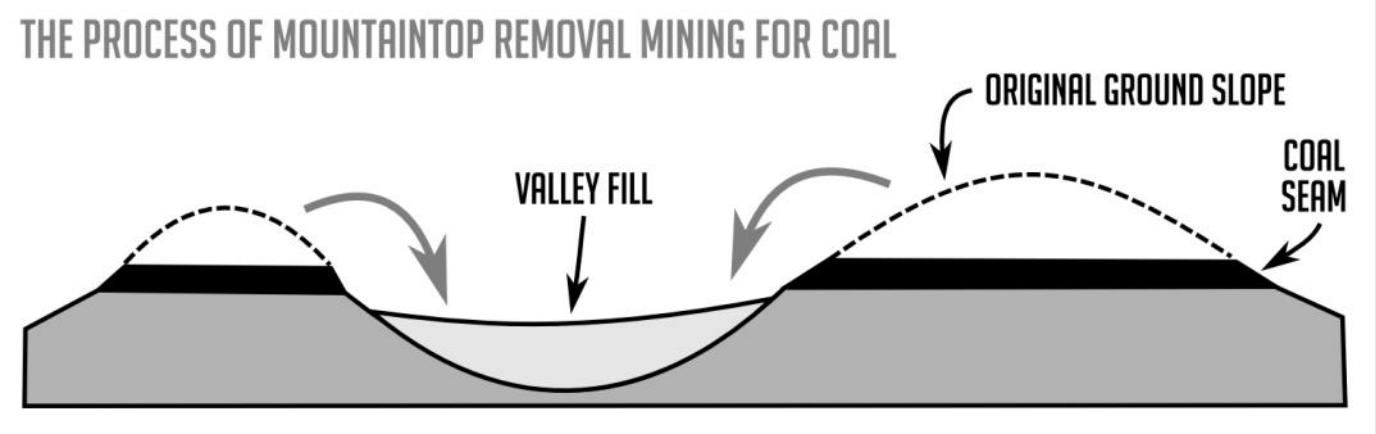
• Destroyed 7% of Appalachian forests.
• Buried or contaminated more than 2,000 miles of streams.
• Destroyed 8,000 square miles of mountaintops, an area the size of Delaware.
• Deeply endangered one of the most biodiverse ecosystems in the world, threatening more than 240 species.
• Pumped millions of gallons of heavy metals and other pollutants into local rivers, lakes, and streams that local communities, and millions of others, rely on for clean drinking water.
• Contaminated thousands of miles of streams with selenium and other pollutants that deform and cause reproductive failure in fish and that have put Appalachian waterways on the brink of collapse.

The study went on to report that mountaintop removal coal mining could ultimately destroy more than 1.4 million acres of forested mountains, and that unless we act now, a total of 2,200 square miles of Appalachia will be devastated. [36]

Since 2007 numerous peer-reviewed studies have documented the incredibly dangerous effects that mountaintop removal coal mining has on communities.

• Cancer rates are 5% higher near mountaintop removal sites.
• Birth defects are 42% more likely in children born in mountaintop removal areas.
• Life expectancy in mountaintop removal affected countries is up to 1.5 years shorter.
• Over the course of their lives, people in mountaintop removal regions have an average of 1,404 more unhealthy days more than the average American (nearly four years).

This information comes predominantly from the **Sierra Club's** fact sheet on Mountaintop Removal. Their Beyond Coal campaign has focussed on campaigning to close the USA's existing coal-fired power stations, prevent new ones being built and keep the coal in the ground.



has continued to migrate off the mine site along with polluted water discharges to Central Park Creek. Subsidence has affected roads and farm fields. The first 140-acre impoundment is essentially full of coal slurry now and has visible leakage from the sides of the coarse coal walls. This 80 foot tall high-hazard dam threat will be in the community forever and will be joined very soon by an even larger blight with the help of the Department of Natural Resources[...] A second high-hazard dam impoundment that covers 318 acres and will be 60 feet high will be even closer to citizens and the hospital[...] The reality is that Montgomery County residents breathe the air that contains particles from coal on a daily basis. Children and elderly are especially vulnerable. Tragically, inadequate procedures in permits approved by Illinois Department of Natural Resources and Illinois Environmental Protection Agency do not prevent fugitive emissions from migrating beyond the mine perimeter, and there is no monitoring on and off the mine site to establish compliance." [23]

LEAKING COAL BARGE BEING PUMPED. JEFFREY BUBINSKY/SOUTHWINGS.ORG

Local people complain that there is no air quality monitoring and that the mine discharges interact with the counties surface water through a series of creeks which pass Hillsboro urban area and flow into Middle Fork Shoal Creek. They say that Hillsboro Energy does not acknowledge that harmful metals, such as arsenic, chromium, lead, selenium, etc., or any organic toxic compounds, such as polycyclic aromatic hydrocarbons, exist in coal and as a result it is not required to analyse for these toxic substances in surface water samples. The taxpayer is covering the security and emergency management training costs for Deer Run Mine. Over 20 homes have been torn down and there are occurrences of land and road subsidence. Coal dust, noise, two high rise dam impoundments, and traffic delays will further devalue property values and quality of life. [24]

The Illinois Basin is an important region for coal to be exported from the USA. 63% of the weight of coal exported from the coal terminals on the Gulf Coast came from here in 2013. [25]

Norfolk, Virginia

29% of all USA coal exported to the UK comes from Norfolk, Virginia. This makes up 20% of thermal coal and 51% metallurgical coal exported to the UK from the USA. [6] The port exports to Hunterston Coal Terminal. [9] Alpha Natural Resources exports coal from the Lambert's Point coal terminal in the Norfolk Port and Arch Coal export from the Dominion Coal Terminal.

The Dominion Coal Terminal, Newport News, Norfolk, is 37.5% owned by Peabody who have 27 mines across the USA and Australia. [26] Coal from Newport News comes into Hunterston coal terminal.

Peabody Energy is the world's largest private sector coal company. It owns mines, including the world's largest coal mine, North Antelope Rochelle Mine, [27] and also markets and brokers coal from other producers. It is involved in thermal and metallurgical coal, with customers in 25 countries. [28]

Peabody only exports a small proportion of the coal it sells. Its primary ports used for USA exports are the United Bulk Terminal near New Orleans, the St. James Stevedoring Anchorages terminal in Convent, and the Kinder Morgan terminal near Houston, Texas. It also utilizes the Dominion Terminal Associates coal terminal in Newport News to export coal sourced from domestic third-party producers. [29] All four of these terminals are in ports which export to the UK.

Peabody is an aggressive company fighting for its survival. In 2014 the UK's Advertising Standards Authority ruled that Peabody's 'clean coal' advert in the Financial Times was misleading and could not be distributed again in its current form. It promoted coal as a way to reduce world poverty. [30]

Peabody uses notorious public relations giant Burson-Marsteller - which helped Big Tobacco attack and distort


COAL DEPOT. SIERRA CLUB

scientific evidence of the dangers of smoking tobacco - to launch Advanced Energy for Life. [31] The Advanced Energy for Life website is a clear promotional site for coal, funded by Peabody, which denies climate science and misleads readers. For example, an article titled 'Coal is Essential for World Economic Growth and to Alleviate Energy Poverty' [32] entirely ignores the fact that climate change will affect the world's poorest most severely. A study in China reported in the Lancet estimated 77 deaths per Terrawatt-hour from a coal-fired power plant that met Chinese environmental standards. [33] This would result in an estimated 250,000 deaths per year in China, based on estimates of coal combustion for 2007. [34] The world's poorest tend to have the least access to health care and so relying on coal to supply electricity hurts them disproportionally. Peabody's PR exercise conveniently ignores these facts.

Port of Mobile, Alabama

The Port of Mobile coal terminals supply 16% of the coal coming to the UK from the USA, including 11% of the thermal coal and 29% of the metallurgical coal. [6] The port exports to Hunterston Coal Terminal. [9]

McDuffie Terminal

Walter Energy operates two underground mines in the Blue Creek coal seam, which is near Birmingham, Alabama. It produces coking coal, which can also be burnt in power stations. [37] 92% of the coal mined underground is exported [38]. In addition, Walter Energy Group has three opencast mines also in Alabama. It uses CSX and Norfolk Southern Rail trains to transport coal as well as its Black Warrior River coal terminals to bring coal to the McDuffie Terminal in the Port of Mobile.

Residents in the area of the Black Warrior River have set up Black Warrior Riverkeeper as an organisation to protect the river and its tributaries. They are dedicated to improving water quality, habitat, recreation, and public health throughout their patrol area, the Black Warrior River watershed.

John Kinney, Enforcement Coordinator with Black Warrior Riverkeeper, said, *"The list of environmental/pollution impacts of coal mining and shipping on the river is almost never ending: acid mine drainage occurs at old coal mines throughout the watershed; habitat alteration due to excessive siltation and sedimentation occurs downstream of active, reclaimed and abandoned coal mines; water quality is severely impacted downstream of coal mines from elevated suspended solids, sulphates, and metals; air pollution is created by the blasting of dynamite and fugitive coal dust in the areas near the coal mines; coal is often spilled into the river at the loading facilities, and dust escapes from the barges; the heavy wakes from the barges also cause severe erosion of river banks in some locations."* [39]

There have been protests from local people in relation to work on the terminal in Mobile and the terminal in Black Warrior River.

The company is planning on continuing mining in the area for more than 40 years. In 2013 it was applying to mine 3 to 4 million tonnes of coal a year from a new Blue Creek Energy Mine. [40] Its CEO, Walt Scheller, has said that the decision to expand and create this mine was influenced by the legislature's recent decision to extend Alabama's tax incentives to include coal mining operations. [41] Walter Energy have been responsible for 18 deaths between 2001 and 2004 in deep mines. [42] Due to the low international coal price and reduced

INTERVIEW WITH BILLIE BENDER, JULY 25TH 2015, BY THE RAMPS COLLECTIVE

I live below Whitesville on The Big Coal River, in Prenter, West Virginia.

APPALACHIA RISING 2010. COAL RIVER MOUNTAIN WATCH

I live below the mine. You can just walk across my road and go up to the mine. But they've closed it down now.

Our water is not very good. It never has been, but my husband and I didn't know that when we moved here. Then we found out, and for the last 5 or 6 years we have had to buy bottled water, and we use that to drink and to cook with.

What happened to the water?

When there's the water runoff from up on the strip mines, that comes down and pollutes the water.

Do you know of anyone who has gotten sick from the water where you live?

Yes, I believe my husband did. He was a diabetic and he drank the water a lot. We didn't know back then it was bad. But then he got throat cancer. He passed away.

Are people where you live on city water now, or are they still on well water, which was contaminated?

No, they're still on well water. When you come up Prenter Holler, the water pipes are four miles below my house. They say they're out of money to put people on city water and they're not going to bring it on up through here. The people that was working on getting city water in because of the bad water had got some kind of grant from the government to fix the water.

Can you tell me a little bit about how you help distribute water to your neighbors who also have bad water?

Yes. Dave and RAMPS (the Radical Action for Mountain People's Survival Collective) brings clean water down. When I run out, giving it to people, I call them and they bring more water in jugs.

The mine Billie Bender refers to was a mine operated by Massey Energy which has been closed for several years. The site is now owned by Alpha Natural Resources.

demands for steel, Walter Energy is financially struggling. As a result it closed its Aberpergym mine in Wales, its only mine outside of North America, in summer 2015. The company underwent significant restructuring in July 2015. [43] As the Walter Energy supply chain feasibly could supply coal to the UK it is reasonable to consider that this coal may also reach our shores.

Infamous coal company Drummond are also exporting through Port of Mobile. [44] Drummond's activities in Colombia are well documented, including in this report on pages 25 & 26. Drummond operates two mining complexes which supply the Port of Mobile. Drummond's Shoal Creek mine produces metallurgical coal by continuous and longwall mining and Twin Pines complex produces metallurgical, thermal, and pulverized coal injection by surface mining. [45]

Black Warrior Riverkeeper was successful in a law suit decided in July 2015 against a Drummond subsidiary, Shannon LLC, for water pollution violations. The company was found to be discharging water with excessive concentrations of selenium, iron, and total suspended solids. Nelson Brooke, staff Riverkeeper commented, "*This settlement is a step in the right direction for Blue Creek and Valley Creek, the critters that call them home, and the people who enjoy fishing and recreating downstream.*" [46]

Another Drummond subsidiary voluntarily decided not to renew a permit to mine immediately next to the Mulberry Folk river. *"The 1,773 acre strip mine would discharge waste water at 29 proposed outfalls, including one 800 feet across the river from a Birmingham Water Works Board intake providing water to 200,000 people."* [47] The decision in June 2015 came after a campaign by Black Warrior Riverkeeper and students at nearby historically black colleges and universities. [48] The application was thought to have a greater impact on African Americans as 75% of Birmingham's population are from this group and their water supply comes from down river of the application site. [49]

Also exporting through the Port of Mobile is J Aron, owned by Goldman Sachs. [44 & 50] There is pressure on USA banks to sell their physical commodity business, after a New York Times investigation into Goldman Sachs in relation to manipulation of aluminium prices. [51]

Cliffs Natural Resources export through the Port of Mobile. [44] It operates two longwall and continuous mining mines in West Virginia and Alabama. It produces metallurgical and thermal coal at Pinnacle and Oak Grove Mines. [52] Of the coal produced 61% was sold internationally. [53] The company also mines iron ore.

Baltimore, Maryland

3.5% of coal from the USA coming to the UK is from Baltimore. This makes up 13% of the total for metallurgical coal and 6% of coke. There is no thermal coal coming to the UK from Baltimore. [6] It is possible that some of this coal is burnt to create electricity in the UK, although it is likely that most of the coal goes to the steel industry.

CONSOL, which produces coal and natural gas, owns the coal terminal in Baltimore which is supplied by the network shown below. CONSOL exports 5% of its coal sales. [54] 42% of the coal that went through the CONSOL Baltimore terminal in 2014 was produced by the company. [55] Export volumes range from a single shipment to multi-year agreements. [56]

CONSOL has been taken to court for polluting a number of streams near its Bailey Mine, operated by a longwall system. The company produces both metallurgical and thermal coals. CONSOL is also involved in the shale gas industry (fracking) with interests in the Marcellus and Utica shales in Appalachia. [58]

93% of CONSOL's coal is produced by longwall mining. During 2014 poor market conditions meant that two mines were mothballed for at least part of the year and a further two were operating at a reduced capacity. [59]

In early 2015 the CONSOL's AMVEST Fola Complex mountain top removal coal mine was found to be breaking the Clean Water Act (1972) in relation to valley filling operations that were polluting the Stillhouse Branch river with sulphates and other toxins. The case was a citizen's law suit brought by the West Virginia Highlands Conservancy, Sierra Club, and Ohio Valley Environmental Coalition.

"Over and over we see our state Department of Environmental Protection failing to enforce standards and

laws that are written to ensure mountaintop removal coal mining corporations don't get away with treating our streams like dumps. Fortunately, we have the Clean Water Act, which allows citizen groups to step up and defend our water. We have no chance to build a better future if we don't have clean water" said Vivian Stockman, of the Ohio Valley Environmental Coalition. [60]

CONSOL's AMVEST Fola Complex mining operations stretched across over 90% of the Stillhouse Branch watershed where there is no other land use activity that could account for the significantly altered state of the tributary. [61]

COAL COMPANIES OPERATING FROM MULTIPLE PORTS

Alpha Natural Resources

Alpha Natural Resources is one of the biggest mining companies in the USA, exporting across the world, including to the UK. [62] The UK was one of the top five importing countries for Alpha in 2011. [63] Alpha has the largest port capacity of any USA coal producer with committed capacity to export from Lamberts Point (Norfolk), Dominion Terminal Associates (Newport News, Norfolk), Pier IX (Newport News, Norfolk), United Bulk Terminal (New Orleans), International Marine Terminals (New Orleans), Associated Terminals, and Chesapeake (Baltimore). [64]

Alpha Natural Resources and its subsidiaries mine in Appalachia, where they employ mountaintop removal coal methods, the details of which are on page 42. Alpha Natural Resources has 58 mines of which 45 are underground. [65] In 2011 the company exported 107 million tonnes of coal. Alpha Natural Resources is also involved in fracking in the Marcellus Shale natural gas field of Southwestern Pennsylvania. [66]

Alpha Natural Resources owns the Marsh Fork coal mine, which was mothballed in September 2014. [67] The mountaintop removal mine was operated by Massey Energy, then sold to Alpha in 2011. The mine was highly controversial, particularly because it was exceptionally close to settlements, including the Marsh Fork Elementary School. The school is located in the Coal River Valley of West Virginia. A Massey Energy subsidiary owned and operated a coal processing plant and a massive toxic waste stored in a dam. This seeping dam sat 400 yards from the school, and a coal silo ominously loomed 150 feet from school grounds. This silo loaded powdered coal onto trains and sprayed it with a chemical binding agent. Another Alpha subsidiary, Independence Coal, operated a 1849 acre surface strip mining operation above and around the school and dam. [68]

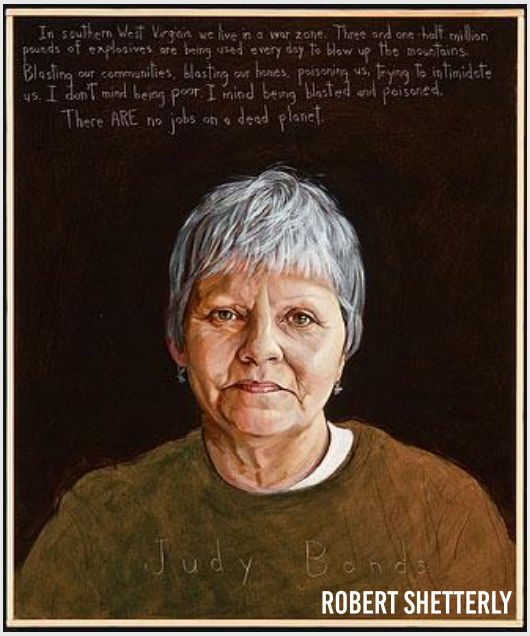
MARSH FORK ELEMENTARY SCHOOL NEXT TO ALPHA PROCESSING SITE, BELLOW VALLEY INFILL AND SLURRY POND. SIERRA CLUB

IN MEMORY OF JUDY BONDS, A HERO FOR THE MOUNTAINS

When Julia (Judy) Bonds was a young girl she would play in the creek that runs through Marfork Hollow. This was back before anyone had ever heard of mountaintop removal. The water in West Virginia was so famous that relatives would drive back to Cleveland and Chicago with jugs of it. In later years, she would start a family in this same hollow that her family had lived in for so many generations that the tombstones in the cemetery are older than the USA Constitution. For the last 100 years, coal mining was the dominant industry in this part of West Virginia, and Judy came from a family of proud coal miners. They worked underground under such dangerous and unhealthy conditions that they often died before they could collect their pensions. Yet the children could play in the creeks in the hollows, gardens could be grown, food could be hunted and gathered and life, if hard, would go on.

But that all changed one day. Strip mining was introduced to West Virginia in the 1970s. Large new equipment that had been built to construct the Interstate Highway System was brought in to remove the tops of mountain ridges to more cheaply mine the coal seams that lay beneath the surface. This overburden was dumped into the creeks. One of these creeks was Packsville Creek, where Judy Bonds grew up. When Massey Energy Co., now Alpha National Resources, began blasting, the air became filled with dust, and families began moving out. Judy refused to go. Packsville was home. She soon discovered that Packsville (now re-named Marfork by Massey) was only one of many West Virginia hollows dealing with the effects of mountaintop removal. Massey had planned a dam farther up Marfork hollow – an impoundment that would hold billions of gallons of coal sludge.

Her family would be in danger, especially if the dam failed as in 1972 at Buffalo Creek, West Virginia, where 125 people were killed in a toxic flood. She moved out of her family's home to another house just up Coal River Road. She became a volunteer with and then executive director of Coal River Mountain Watch (CRMW). She taught herself how to challenge the mining companies' federal and state



permit applications. Embracing her hillbilly identity, she shrugged off the argument that rural people needed the coal industry's jobs. "*If coal is so good for us hillbillies*," she said, "*then why are we so poor?*" Her message was consistent: The health and safety of Appalachia's poor were being sacrificed for the profits of energy companies.

Judy won the Goldman Environmental Prize in 2003. In an interview after receiving the award, Bonds told how she relies on the teachings of her mother, her religious convictions (from both her Southern Baptist and her Cherokee backgrounds) and from the writings of Martin Luther King Jr. and Gandhi: "*My sense of justice and outrage came from my mother. … We are here to steward this land … I know what I'm doing is right. They can call me whatever they want. I'm not stopping*." Judy endured much personal suffering for her leadership.

While people of lesser courage would candy-coat their words or simply shut up and sit down, Judy called it as she saw it. She endured physical assault, verbal abuse, and death threats because she stood up for justice for her community. Judy Bonds died of cancer on January 3, 2011, at the age of 58. Her lasting legacy, Coal River Mountain Watch, works every day for the mountains and people of Appalachia. She has inspired a movement that continues the fight to end mountaintop removal. Under her leadership, Coal River Mountain Watch moved from her kitchen table to a small storefront in Whitesville, West Virginia.

Today, CRMW occupies a historic two-story building in Naoma, West Virginia. That building came up for sale and has been bought by CRMW. We can think of no better tribute to Judy Bonds than to have purchased and preserved this wonderful space which has played such an important role in this community and this struggle. Thank you for helping us preserve Judy's memory, as well as continuing her work.
http://www.crmwmovingforward.com/

VALLEY INFILL PROCESS. SIERRA CLUB

The Marsh Fork mine was opposed by Coal River Mountain Watch (CRMW) who are a grassroots group which campaigned to move the Marsh Fork Elementary school and who campaign against other mountaintop removal coal mines in the area.

The Marsh Fork elementary school was moved away from the mines and opened on a new site in January 2013, after a five year struggle by local people. Massey were exporting coal to the UK, so some of the coal from the site which threatened the school may well have been burnt here. [69]

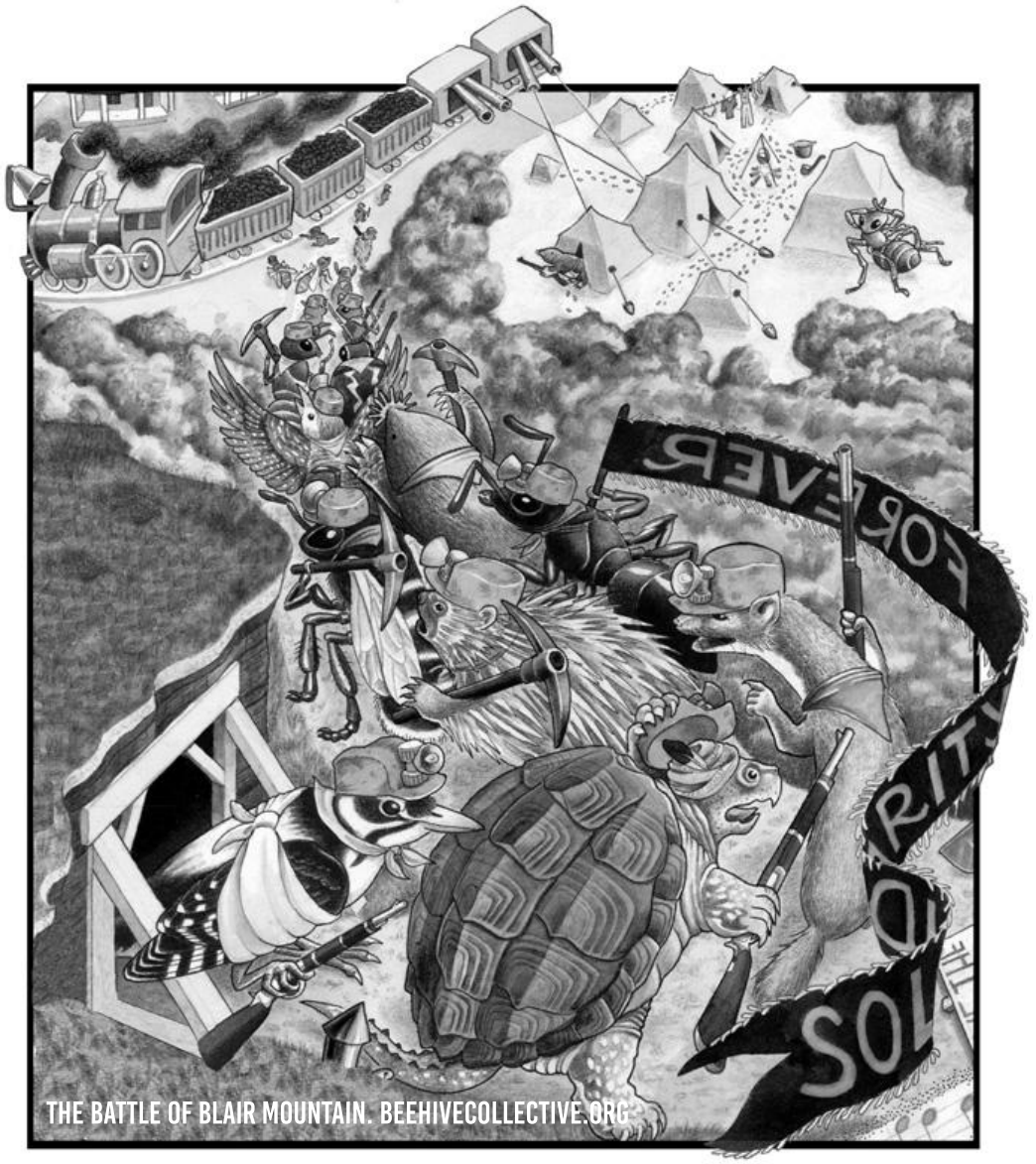
Residents from CRMW are also concerned about the capacity to evacuate if the Brushy Fork impoundment failed. This impoundment is owned by the Marfolk coal company - another Alpha subsidiary. The Bee Tree mountaintop removal coal mine which filled this impoundment is also idle at present. The CRMW said a failure at this impoundment would eclipse the 1972 Buffalo Creek dam collapse that killed 125 people. [70]

There have been a number of lawsuits filed against Alpha Natural Resources in relation to water pollution. In 2012 two Alpha subsidiaries were taken to court over conductivity levels. Conductivity in water is affected by the presence of inorganic dissolved solids such as nitrates, selenium, and sulphates from mine workings. The environmental organisations bringing the suit want water treatment facilities installed at the two sites. Alpha said that would be costly. Between 2012 and autumn 2014 Alpha was served with or expecting 12 lawsuits against many of its subsidiaries. They have been found guilty in at least four cases, so far. [71]

In response to a law suit in relation to selenium discharges from two mines, in 2012, Ted Pile, a spokesman for Alpha, said the company's operations were in compliance with water quality standards, and that *"insinuating that we routinely break the law, with acquiescence of state regulators, is offensive and unnecessarily provocative[...] Alpha requires its operations to follow an environmental management program that is designed to*

ensure discharges are within permit limits. In 2011, the water quality compliance rate of Alpha's operations was 99.7%." [72]

In West Virginia Coal companies and mine operators have lobbied for legislation that will weaken selenium pollution protection in Appalachian coalfields. [73]



Alpha wants to open a new mine above Rock Creek, also in the Coal River Mountain area. There are a number of environmental and community groups fighting the application from Alpha subsidiary, Marfork Coal Company. [74] These groups include Radical Action for Mountain People's Survival (RAMPS) who are a non-violent direct action campaign based in the southern coal fields of West Virginia. RAMPS is dedicated to ending all forms of strip mining in Appalachia and believe our greatest contribution to reaching this goal is to undertake locally supported direct action. The RAMPS Collective have been taking action against this mine in the form of office occupations [75] and have taken action against mountaintop removal coal mining with tree sits as well as working on campaigns against mining in Appalachia in other ways.

Another Alpha subsidiary, Republic Energy [74] has a planning application active for a mountaintop removal mine which would cover 847 acres at Long Ridge, West Virginia. [76] The concerns for local residents in relation to this project are for the health damages, restricted access to amenities, dangers of polluted water, huge destruction of wildlife and damage to scenery. The community groups fighting the proposal believe that it would lead to a further application to mine another 1,200 acres. [77] Activists from Mountain Justice and RAMPS have been involved in a direct action campaign against the proposals.

Alpha has not been performing well, and due to low coal demand has laid off a more than 250 staff and mothballed several of its mines. [78]

Arch Coal

Arch Coal exports through Dominion coal terminal. The Dominion Terminal Associates coal terminal is operated by Alpha Natural Resources, Arch Coal, and Peabody. [79] Arch owns a 22% share of the facility. [80] Dominion Terminal exports coal to the Port of Clyde. [9] Arch Coal also owns a 38% interest in Millennium Bulk Terminals which is a bulk commodity terminal on the Columbia River in Washington. [80] Arch Coal is one of the world's largest coal producers and marketers, with 134 million tonnes of coal sold in 2014. It produces thermal and metallurgical coal. [81]

In January 2013 in an action by RAMPS, Missourians Organizing for Reform and Empowerment and Mountain Justice, the Arch Coal headquarters was

occupied for over six hours with a lock-on blockade and singing activists releasing a banner reading, 'John Eaves your coal company kills,' attached to balloons in an atrium. John Eaves is the CEO of Arch Coal. [82]

Arch want to use mountaintop removal mining for coal at Blair Mountain, where the USA labour movement fought an historic armed struggle in 1921. Unionised coal miners battled with the coal companies and law enforcement. The miners wanted to march to the southern West Virginian mines to encourage miners to unionise. The culmination of the battle happened at Blair Mountain where thousands of miners had marched. Troops entered the battle, miners were shot at and ten home made bombs were dropped on them from planes. 600 miners surrendered. [83] Local people are not prepared to allow this mountain to be destroyed.

A subsidiary of Arch, Mingo Logan Coal Company, had an environmental permit revoked for their Spruce No.1 mine in the Blair Mountain area of Appalachia. It was expected that, were the mountaintop removal coal mine to fill in tributaries with over burden, as is common practice with mountaintop removal mining, it would breach the Clean Water Act. Had this been allowed to happen it would have buried more than seven miles of streams. There were 12 mountaintop removal coal operations authorised or proposed in the same watershed in 2009. [83] This ruling was seen as a victory for the environmental movement.

The USA Office of Surface Mining Reclamation and Enforcement is (in 2015) looking into whether Peabody is currently in a strong enough financial situation to use the self-bonding practice. [84] Large companies in secure financial situations are allowed to self-bond in certain circumstances rather than use an external insurance company. If the company was not able to self-bond it would have to pay market rates to insure for restoration. Coal regulators in Wyoming stripped Alpha Natural Resources of its right to self bond after determining that its finances were too weak. [84] In July 2015 Walter Energy also filed for bankruptcy. [85] The coal industry is one in serious decline and as such cannot be trusted to be able to restore sites nor operate in the manner agreed when permissions were given.

CONCLUSION

The USA government is taking proactive steps to reduce climate change by closing existing coal-fired power stations, which is a great step forward. Sadly much of the coal which would have been burnt in the USA is now being sold to fuel power stations abroad, contributing the same amount of carbon emissions plus additional pollution from greater transportation.

The situation in the USA has different racial issues to those in Colombia and Russia. In the USA there are First Nation communities currently fighting coal extraction, but these are predominantly on the western side of the country where coal is exported to Asia rather than Europe. First Nation people had predominantly been moved out of Appalachia before mining operations moved in.

The situations surrounding coal mining in the USA are extreme. Opposing it are hundreds of groups fighting coal power, mining and infrastructure. Both grassroots and national groups are fighting with legal challenges and direct action. The progress made against the coal industry in the USA needs support from other countries. We need to end our reliance on coal and stop imports which cause local, national, and global pollution, and environmental damage.


BRUSHY FORK COAL SLUDGE IMPOUNDMENT. ILOVEMOUNTAINS.ORG/SOUTHWINGS.ORG

COAL MINING IN THE UK

Coal was not burnt in the UK until late 1100 and in 1306 a law was passed banning its burning. It took until the 1500s for people to accept its widespread use. Coal was associated with death, disease and the devil. The Catholic Church, which owned most of the large Newcastle coal fields did not want to invest in its exploit beyond the easily accessible seams. Coal production surged in the late 1500s due to wood shortages, widespread use of chimneys in homes, and Newcastle merchants being given the coal fields by Henry VIII. By 1603 it was the UK's main source of fuel. By 1700 Britain consumed more coal than the rest of the world combined. The steam engine, powered by coal, was invented to pump mines dry. Both subsequently fuelled and drove the industrial revolution. [1]

Coal mining techniques have varied from small scale affairs to large underground mines, and latterly to opencast mines. Since the 1970s, coal mining has been an industry in decline and a highly political issue. Deep mines once employed large numbers of people in secure jobs, which became better paid thanks to the unions. Accidents in mines caused loss of life, but strong communities grew around the mines, working and living together. The increased use of opencast mining methods became predominant due to the lower costs of coal extraction, despite the significantly worse localised environmental impacts, job insecurity and lower wages. A contributing factor to the move to opencast has been the need to compete with cheap overseas imports from countries with greater economies of scale and weaker human rights and environmental legislation. Deep mining is far more expensive by comparison.

As in other countries, the coal seams are not shared evenly across the land. The Scottish coal fields are in Ayrshire, Lanarkshire, Midlothian and Fife. In Wales they are in the southern valleys and in England there are coal fields in Northumberland, Durham, Lancashire, Yorkshire and Leicestershire. All of the coal mined and burnt in the UK is the higher quality bituminous coal or anthracite. [2] Nearly all of the coal mined in the UK is burnt in UK power stations, but British coal has, on average, double the sulphur content of imported coal. This disadvantage is greatest for English deep mines and means that domestically produced coal will have to be used almost exclusively in coal-fired power stations equipped with flue gas desulphurisation. [3]

FFOS-Y-FRAN, SOUTH WALES. CAN

OPERATIONAL MINES IN THE UK IN SEPTEMBER 2015 [5]

Country	Deep Mines		Opencast Mines		Changes Expected (jobs expected to be lost)
	Number of Mines	Total Employees	Number of Mines	Total Employees	
Scotland	0	0	11	457	Hagreaves has announced reduced production but not specified at which sites [6]
England	6	561	6	372	Kellingley to close December 2015 (463 jobs) [7]
Wales	3	74	8	704	Selar to be mothballed from March 2016 (70 jobs) [8]
Total	**9**	**635**	**25**	**1533**	**Total Mining Jobs 2,168**

In the last ten years there has been a surge in the number of planning applications to opencast coal mine in the UK. However community resistance to the proposals has been strong. In 2014 there were seven applications refused or withdrawn by the coal companies, and only two approved. Since 2011 the quantity of coal produced in the UK has fallen by 6 million tonnes to a low of 11.5 million tonnes in 2014. [4]

OPERATING MINES

Overall coal production was down 40% on the previous quarter with 1,287 less people employed than in June 2015. By comparison to September 2014 there were a million tonnes less coal produced by opencast and more than 400,000 tonnes less by deep mining. [9]

EXPECTED CHANGES

In recent years coal mining in the UK has changed dramatically. In 2008, far more coal was mined in Scotland than England and Wales combined, yet in 2014, 56% of coal output was in England, with only 22% in both Scotland and Wales. [4] The shift is due to Scottish Coal and ATH Resources going into liquidation in 2013. Many of their sites were abandoned, and Hargreaves, which took over other sites, has reduced production.

Only one deep mine of significant size exists in the UK, Kellingley Colliery, although it is to close by December 2015 due to low international coal prices and a strong pound. [11] Near Wakefield, there is a new drift mine (a type of underground mining where mine shafts head horizontally into the hillside) with planning permission called New Crofton Colliery Co-op, which could employ 50 people but ground is yet to be broken on the site. Of the 20 opencast sites operating in June 2015, six are due to stop extracting coal by the end of 2016.

In 2015, two of the large deep mines, Thoresby Colliery and Hatfield Colliery, closed. The government loaned UK Coal £4 million in order to finance phased closures at Thoresby and Kellingley Collieries which will be completed in December 2015. Hatfield Colliery was part owned by a workers' trust since they bought the site in 2013, but it had become unprofitable and closed despite workers' efforts to save the mine. [12] The closure of the last deep pits has been accelerated by the declining global coal price.

There are six new opencast coal sites with planning permission which have not been started. The delays have been for a variety of reasons including negotiating the removal of pylons (Ferneybeds), lack of demand for coal in Scotland (Cauldhall and Glentaggart East), disagreement over planning conditions by multiple land owners (George Farm) and the Coal Authority's concern over bonds for restoration (Bryn Defaid). In addition to sites at Bradley and Shortwood Farm for which permission was granted to a now liquidated company, UK Coal. [13] In September 2015 RecyCoal announced it would not extract coal at the Hesley Wood Tip because

PROTEST AGAINST NANT LLESG. CAN

of the low international coal price making the site unviable. [14]

Sadly the coal company had clear-felled the trees on the site two and a half years earlier. In October 2015 Celtic Energy announced that they would mothball their Selar site, Glynneath for three years from March 2016 blaming a 40% fall in the world price of coal. [15]

COMMUNITY RESISTANCE

Each of the applications to mine coal through opencast methods in the UK has led to a community opposition group forming. Many of the applications have been in places where previously there was underground mining. The local people know well the problems of dust and pollution. Ex-miners are aware that where deep mining offered them a job for life with proper pay and conditions thanks to the work of the unions, work on opencast mines is much shorter term, lower skilled and poorer paid.

The effects of opencast coal mining on local communities compound the problems these poor rural villages have experienced since the miners' strike. A statistical analysis of mining wards in England published by the Department of Environment, Transport and the Regions in 2003 demonstrated that the 'coal district' impact was discernible 20 years after the closure of a mine and concluded that alongside other basic measures of socio-economic well-being, health suffered a systematic causal relationship with an area's past history in mining. [16] Low levels of employment, dust on clothing hung outside, fracturing communities, poor health and lack of public transport are just some of the other problems people living in the shadow of coal mines face.

UK MINING CASE STUDIES

Bradley, Co. Durham

Residents of the villages surrounding the Pont Burn have fought three applications in 30 years to mine coal from Bradley Farm. In the most recent round of applications, UK Coal sought permission to mine 556,000 tonnes of coal, although local people expected that there would be extensions to this. The site is farmland, last occupied in 1977. When the farm was sold, the Coal Board flattened the whole steading including a brand new house. [17] In recent years there has only been one other opencast in the area, a small site called Stoney Heap. The area is recovering from the loss of jobs caused by the closure of the deep pits, but it is green, picturesque and well used by local and visiting people. The coal company's application to Durham County Council in 2009 was unanimously rejected, and the councillors called UK Coal "*thugs and vandals*", and said UK Coal was trying to bribe them with promises of a new roundabout. [18]

Local people formed a strong community group, The Pont Valley Network, and the associated No Opencast Today or Tomorrow (NOTT) campaign to fight the application. Their unique concerns included the complete removal of historic mine workings and wagonways, devastation of ecosystems including protected great crested newts and red kites, and living

with a mine that would last for the whole of a person's retirement. This goes alongside the common concerns of coal affected communities over the increased HGVs on the roads, dust coating the nearby houses and causing health impacts, noise and light pollution affecting people's homes, the effect on tourism in the area, concerns about impacts on the river and water courses, and the loss of access to the countryside with the creation of an eyesore.

The speakers at all three open rounds of the planning system brought in incredible commitment to the area, knowledge of the plants and animals, and a real sense of community spirit and togetherness. A local farmer, Karen Thompson, described the differences she has experienced of raising animals on land that has never been mined compared to that which has been restored after being opencast by UK Coal, at Stoney Heap.

"This is a photo of two of our lambs. The small poor lamb is much older than the other one but has unfortunately succumbed to a range of clostridial diseases which it has picked up from grazing on restored opencast land. The larger lamb was born on natural land that has been untouched for decades."

She outlined the effects mining has long after the machines have left, including insufficient soil to finish the restoration and poor water drainage. Parcels of land from the former Stoney Heap opencast site failed to receive a single bid when put up for auction. [17]

UK Coal appealed the Council's decision which led to a three-week public inquiry in October and November 2011. Following the inquiry, the Inspector upheld the Council's decision, but UK Coal refused to take no for an answer and appealed to the High Court in June 2013. The High Court overturned the Inspector's report leading to another three-week public inquiry which took place in October 2014. The only decision the coal company was going to accept was one which allowed them to mine the site, which it received in June 2015, despite UK Coal going into administration during the application processes.

The situation at Bradley shows that if a coal company has the resources to throw at continual rounds of planning hearings and lawyers' costs, the planning system is biased in the applicants favour. Local people simply do not have the money to pay for the legal assistance, nor pay the opposition fees should they lose. The system is set up to favour the developers. The community fought an amazing battle and deserved to be left in peace.

Nant Llesg, Caerphilly

Miller Argent wants to open a new opencast mine adjacent to their enormous Ffos-y-Fran site near Merthyr Tydfil, called Nant Llesg. The application is to mine 6 million tonnes from a site with a boundary 500m from the town of Rhymney. The local people formed a strong and informed campaign against the application. Residents living in the shadow of Ffos-y-Fran were able to describe exactly the effects of living next to this company. The issue of jobs was strong in this campaign. Miller Argent brought its employees to the planning hearing on buses to protest in favour of the application, whilst local people voluntarily protested against it. A coalition of local businesses stated that approval of mine would force them to move away from the industrial estate adjacent to the application site. One of these

CAMPAIGNERS LOOK OVER THE BRADLEY SITE. CAN

EDDY BLANCHE, VICE CHAIRMAN, UNITED VALLEY'S ACTION GROUP

Well I have still not come down from the high.

For those of you that have been asleep a short recap....

For the last five years a small band of reprobates and delinquents in the Rhymney / Darren / Merthyr valleys have been working, fighting to stop the opencasting of 478 hectares of open common above my village. They wanted to destroy one of the most beautiful landscapes in the valleys.

We were faced with hostile Council officers who seemed hell bent on pushing it though.

We spent hour after hour trawling through local and national legislation (that to start with I did not have any idea existed.)

The developer had experts in their fields and pots of money.

We had an ex BT engineer and electrician, a few ex-miners, and other assorted people from various backgrounds.

The developers paid rooms full of people to write 1000s of pages of technical documents.

We had to read them, research them, understand them and respond to them. All while doing our jobs and trying to live our lives around it.

I can't remember the number of times I was told by my wife to get to bed as I had work in the morning.

We had some laughs along the way and shed some tears. We made new friends and buried two of them.

Sometimes we felt like we were running up a treacle hill in divers' boots. But we kept on going.

We got told so many times we were wasting our time as it was a done deal and we could never stop them. That the Council had already made up their mind.

Well today at just after 5:45 the councillors cast their vote, and they voted

NO!

We understand that the fight is not over and that Miller Argent will appeal against that decision but we have won this battle. We will keep on fighting and if you face the same
blight please remember not to give up. You can win. You can make a difference. The only battles you will ever be sure to lose are the ones you don't fight in the first place.

Today is a good day for democracy.

Tomorrow..... well that's for another day..

Now I shall go to bed with the image of all those hands raised in the Council chambers today... Those hands raised in support of us ... those hands saying...

NO! NO OPENCAST NOT NOW NOT EVER!!!!!!

From Facebook 24th June 2015

businesses alone, a cosmetics company, said that 150 jobs would be lost if the mine was given the go ahead and it was forced to move. Miller Argent claim it would create 200 new jobs.

"*Cosmetic and pharmaceutical companies cannot operate anywhere near a mine for risk of product contamination – which immediately puts over 300 jobs in Rhymney alone at serious risk. Many other local businesses feel that the combined factors of impact on staff, negative perception of customers and increased management time involved in dealing with the impact of the mine are too great to remain in the area. Many of the 'at risk' businesses located closest to the Nant Llesg site employ a large percentage of women – jobs that are unlikely to be replaced at the mine.*" [19]

The Rhymney Valley suffered financially from the loss of the deep mines, but opencast mining threatens the growing clean businesses which have begun to replace it.

Twenty-two local people spoke in opposition to the Nant Llesg mine at the planning hearing. Alyson Austin, from the United Valley's Action Group, described how living next to Ffos-y-Fran is worse than she had expected; they never open windows no matter how hot it is because of the dust, and cannot dry washing outside. She described modern mining methods as "*noisy, dirty, barbaric*" and said "*mines should not operate within 5 miles of people.*" The RSPB speaker demonstrated that the proposal would contravene protection of lapwings and the use of the Rhaslas pond on the site for ornithologists, saying the developer admitted that the damage would be significant, permanent and irreversible. The councillors refused the application in August 2015, despite threats by Miller Argent to appeal and claim costs for doing so from the cash-strapped council.

Mainshill, South Lanarkshire

The Mainshill Opencast Coal Site is one of ten opencast sites which have been mined in the Douglas Valley coal field, South Lanarkshire. Scottish Coal applied for the site in 2008, and permission was granted in early 2009. Mainshill sits amongst a cluster of mining sites, three of which were operational at the time of planning approval. Over 700 letters of objection were submitted from the local area, predominantly from the village of Douglas, just over a mile away from the site. Local opposition to the site was strong, with a number of organisations including Douglas and Glespin

MAINHILL OPENCAST SITE FOLLOWING THE COLLAPSE OF SCOTTISH COAL

Community Council, Mainshill Opencast Rejection Action Group and Upper Ward Against Pollution, actively opposing Scottish Coal's planning application. Reasons for objection were numerous, and included the cumulative effect of multiple operating sites in such a small area, the local health impacts that residents believed were being caused by the mining operations, and the danger on the roads posed by the hundreds of lorry movements to and from the sites each day.

At the time of planning approval, the Mainshill site was owned by Douglas & Angus Estates, the land-holding of Lord Home, son of former Prime Minister Alec Home, and the Chairperson of Coutts Bank. [20] The laird owns much of the Douglas Valley, including large parts of Glentaggart and Poniel, two other opencast sites, and the approved but never worked Glentaggart East site. It was never established how much Douglas & Angus Estates would receive per tonne of coal mined at the site in return for leasing the land to Scottish Coal, but local campaigners estimated that the deal would be worth many millions to Lord Home.

Once tree felling operations began in June 2009 the site was occupied by the Mainshill Solidarity Camp, a group of environmental campaigners and local residents. The occupation lasted for seven months, and was eventually evicted in January 2010. During the occupation, campers worked with local activists to strengthen opposition in the surrounding area by holding events at the site and hosting public meetings in Douglas. The Douglasdale Coal Health Study [21] was also published during this time, which highlighted increased rates of chronic obstructive pulmonary disease (COPD), cancer and asthma in the local area, and called for a full and independent health study to be carried out. In addition, many different forms of direct action were taken to halt tree felling, drilling, and other such work on the site. Action was also taken at sites nearby, with pit invasions to stop work, and blockades at the coal rail terminal. The eviction of the camp lasted five days and resulted in 45 arrests. The eviction alone was estimated to cost approximately £2 million.

Once evicted the site was worked until 2013 when Scottish Coal went into liquidation. Local residents had maintained their opposition and lodged numerous complaints about noise and light pollution, dust, dangerous HGV driving, out of hours blasting, as well as reporting many different planning breaches such as overburden height, working hours, and waste water discharge. During the process of Scottish Coal's liquidation it transpired that shortly before that happened, Lord Home had sold the site to Scottish Coal, thereby removing any liability for restoration from Douglas & Angus Estates. The value of the sale has never been disclosed. The site was abandoned, and it became clear that the restoration bond held for the site was woefully inadequate to ensure complete restoration.

In 2014 the site was sold by KPMG, Scottish Coal's liquidators, to the Scottish Minerals Restoration Trust, a group initially set up by Hargreaves Services. There are currently no plans for the site, and any bond money that might be available for restoration is subject to ongoing legal processes. The void has almost completely filled with water, and landslides are destabilising large parts of the site. It is a dangerous and polluted scar on the landscape, and unrecognisable from the wood that local residents remember.

Coal mined at Mainshill was mostly taken to the Ravenstruther Rail Head, where it was sent south to Drax power station, amongst others, along with much of the rest of the coal mined in the area.

LORD HOME VISIT TO MAINSHILL CAMP IN 2009. LINDSAY ADDISON

COMPANIES INVOLVED

When the Coal Board was privatised in 1995 most of the sites were sold to three companies each operating in Scotland, England and Wales. Many of the companies involved in coal mining in the UK have had serious financial difficulties. In April 2013 Scottish Coal and its competitor ATH Resources, operating in Scotland, both went into liquidation and work stopped on their mines. Since then the most profitable sites were bought by Durham based Hargreaves Services. Hargreaves has acknowledged that it is having financial problems and after celebrating its 500th employee in July 2014 [22] announced redundancies and reduced production in February 2015. In the first two years Hargreaves owned the sites the coal price fell by £16 to £39 a tonne, a nine-year low. [23] At present Hargreaves appears to be sitting on the coal mines, hoping the international coal price will rise. Hargreaves is also involved in operating coal terminals at Immingham and Newport, and transporting coal and other bulk materials from abroad.

In Wales, Celtic Energy has three opencast mines and permission for one, as yet unstarted. Celtic Energy bought concessions from The British Coal Board when coal was privatised in 1995. Miller Argent's Ffos-y-Fran near Merthyr Tydfil is the UK's largest opencast mine with permission to extract 11 million tonnes of coal. Miller Argent was refused planning permission in August 2015 at Nant Llesg. Further information on this can be found on pages 56-58. Walter Energy announced the mothballing of its only Welsh mine, Aberpergwm Colliery, in Summer 2015, after the company filed for bankruptcy in the United States where it is based. [24]

In England the biggest operator was UK Coal, which operated three large underground mines and six opencast mines in 2010. [25] In 2013 UK Coal went through a complicated financial restructuring after a fire at their Daw Mill Colliery. [26] In July 2013 the company was bailed out by the Pensions Protection Fund and some miners lost 10% of their pensions. [27] In 2015, UK Coal received a £4 million commercial government loan for a phased closure of their remaining deep mines. UK Coal will cease to exist after the closure of Kellingley Colliery. [28]

The opencast mining section of UK Coal has been sold off to UKCSMR Ltd. David Kelly, joint administrator of UK Coal Surface Mines and PwC partner, said: "*The company was part of the UK Coal group which has been impacted by the decline in world coal prices. A number of the company's planning applications for future surface mine sites were also unsuccessful, resulting in historic restoration obligations in excess of forecast profits.*" [29] The opencast mine sites once owned by UK Coal are now operated by UKCSMR Ltd, although the signs on the opencast entrances has never changed to represent their new owner-operators.

UKCSMR Ltd is a secretive new company which is yet to file annual accounts and has almost no web profile. The directors, however, have other coal-related directorships including UK Coal Surface Mines Ltd, and Juniper (No.3) which was the company pursuing the Bradley opencast application at the appeal in 2014 on behalf of UK Coal. UKCSMR Ltd have the same registered address as UK Coal.

TAX AVOIDANCE AND INVESTMENT FROM ABROAD

The companies operating mines in the UK are all seemingly registered in the UK. However there are a number of foreign companies involved, some of them in a complicated tangle of subsidiaries. UK Coal has links to Goodweather Holdings Ltd with an address in the Cayman Islands, a well known tax haven, through Coalfield Resources UK Coal's parent company. [30]

When Celtic Energy bought the Welsh coal mines from the government following the privatisation of the coal industry, it did not have to pay a restoration bond for the sites for ten years. In 2010 it sold the liabilities and land rights for four opencast sites in Wales to a company in the British Virgin Islands, another tax haven, for a nominal fee. Although Celtic Energy still operates the sites, the significant liabilities have been passed around by a number of offshore businesses, all without the assets to fund restoration. There was a court case for fraud which was thrown out in 2014. Albeit legal, the actions of the companies were described as *"dishonest"* or *"reprehensible"*. Five senior executives gained more than £10m of benefits as a result. [31]

Russian coal producer Kuzbassrazrezugol only owned a 51% share of Powerfuel, which ran Hatfield Colliery for

a year between 2006 and 2007, before selling the shares at about the same price as it bought them for. Hatfield colliery was mothballed at the time although there was a license to build a new 920 MW power station on the site. The colliery was subsequently sold. [32]

THE RESTORATION PROBLEM

There is currently a restoration problem in relation to mines in the UK, particularly in Scotland and Wales. The issue came to light after the two big coal companies in Scotland went into liquidation in April 2013 and several unrestored and formerly operational opencast sites were abandoned. The problem is compounded by the legacy of the privatisation of the industry in 1995 when no restoration bonds were required for operating licensed sites. [33] Companies had been allowed to operate without putting aside sufficient money to restore the sites once the coaling was complete. "*However, no method of accumulating a restoration bond is perfect.*" [34] When Scottish Coal and ATH resources went into liquidation the holes they left behind could not be filled with the money available in the bonds. In 2014 there were thought to be up to 20 unrestored opencast sites which had belonged to these two companies. [35] Since the collapse of these companies East Ayrshire Council has been left with a shortfall of £133 million to restore sites in their local authority area alone. [36] It is now apparent that the Scottish coal companies were working in a deliberately unsustainable manner and never had any intention of restoring their sites.

A detailed account from Scottish campaigners can be found on the following page.

In Wales, the government commissioned research into the restoration liabilities of coal mines. Of ten active sites they found that five of the larger sites may have insufficient bond cover at some stage of their operating life. Of these currently active sites, Miller Argent's Ffos-y-Fran is thought to have a potential shortfall of £35 million as it will require significant earth moving of overburden mounds to restore the site. [37] East Pit, operated by Celtic Energy, is likely to have a significant gap between the bond and the cost of restoration, even though construction of a lake is being considered to reduce costs. Celtic Energy's Margam site is also considered vulnerable as in 2014 there was a £51 million shortfall between the bond and the agreed restoration. Changing the restoration plan may still see a £25-30 million shortfall, as coaling has finished on the site. Dynant Fawr has finished coaling and the site effectively abandoned. The operator has dissolved and the site has multiple owners and a £124,000 shortfall for restoration. [38]

KELLINGLEY COLLIERY, YORKSHIRE, ENGLAND. DUE TO CLOSE IN DECEMBER 2015. CAN

SCOTLAND'S RESTORATION CRISIS, COAL ACTION SCOTLAND

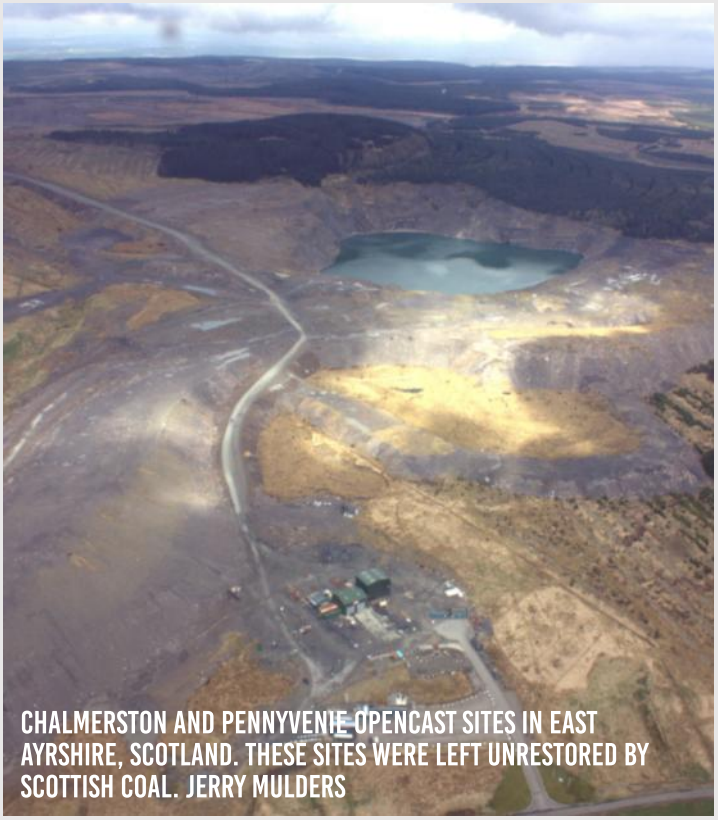
Coal Action Scotland has campaigned on issues of restoration since the collapse of the mining industry in 2013, and gives a detailed account of the events that led to the crisis happening:

The ongoing saga over the restoration crisis in Scotland has revealed the extent to which Local Authorities and the Scottish Government colluded with mining companies to ensure that: a) mining executives were allowed to walk away with no responsibility for the mess that they had created, b) virtually no public official has been held accountable for the negligence and complicity in ensuring that mining companies did not have to adhere to planning policy, c) Hargreaves could cherry-pick assets without having to take on any of the liabilities and d) communities have been excluded from decision making processes, and thereby from benefiting from the decisions made.

Throughout the history of opencast mining in Scotland, there has been a pattern of mining companies running up liabilities and debts, then going bust to avoid responsibility for clear-up operations. There have been cases where directors of such companies have formed new mining companies, and re-worked the same sites, but minus the liabilities for them.

Local authorities also largely refused to adequately monitor the sites or enforce planning conditions imposed on their operators. This is not necessarily surprising, however, given that in South Lanarkshire for example, there was a revolving door between the Council planning department and Scottish Coal, where mining employees subsequently became planners, and in one case returned to the mining company after an application was successfully approved. [39]

Mining companies responded to the total lack of enforcement by, unsurprisingly, acting as they pleased – flaunting planning conditions and policy. Examples include operating sites out of hours, repeatedly subjecting communities to noise levels that far exceeded the volumes allowed, running lorries along any routes they wanted, and generally making a complete and utter nuisance of themselves as far as local residents were concerned.



CHALMERSTON AND PENNYVENIE OPENCAST SITES IN EAST AYRSHIRE, SCOTLAND. THESE SITES WERE LEFT UNRESTORED BY SCOTTISH COAL. JERRY MULDERS

Most significantly perhaps, they weren't putting the sites back together as they went. In theory, mines were supposed to be worked progressively, with voids being filled in as they moved across the sites so that the restoration wouldn't all be left until the end. Restoration bonds agreed between mining companies, Local Authorities and insurance companies reflected this, and assumed that restoration agreements would be followed. However, mining executives knew that the only way opencast mining in Scotland could be profitable was not do so. And so they didn't.

Site after site was left partially or completely unrestored. By 2013, the high coal prices of 2008/9 had meant that a lot of sites were being worked in Scotland, with many of these coming to the end of their coaling years. But then coal prices dropped dramatically. At the same time, Scottish Coal and ATH Resources had run up huge debts, and even bigger restoration liabilities for the mines they were then working.

When Scottish Coal's creditors came calling in April 2013, KPMG took them through the motions of liquidating the company. A month later, ATH Resources also went into liquidation, and again KPMG acted on the company's behalf. KPMG claimed that it was within their legal rights to abandon the sites that were no longer considered assets, and initially the courts agreed. This ruling was appealed, and subsequently overturned, although the mining companies had in effect abandoned the sites anyway, owing to the fact that there was no one to be held accountable for them. Meanwhile, the mining company directors walked away with their pockets full.

As time went by, the extent of the restoration crisis became increasingly clear. East Ayrshire Council, which had responsibility for the largest number of sites in Scotland, commissioned experts to assess the damage. This resulted in some fairly damning conclusions as well as revealing the financial implications of what had been left by the mining companies. Fife Council also conducted a similar review, but significantly, South Lanarkshire Council, responsible for the second largest number of mines, never followed suit. Details on the restoration liabilities in South Lanarkshire, and the failings that they resulted from, have never been disclosed.

In response to the almost complete collapse of the coal mining industry in Scotland, the Scottish Government scrambled to appear that it was doing something to save the hundreds of jobs that had been lost. It also set up the Scottish Mines Restoration Trust (SMRT), although the founding directors of SMRT were Hargreaves' directors, and it was financed by the company.

In a deal that we now suspect had been the subject of discussion for many months prior to the industry's collapse, Hargreaves Services stepped in and cherry-picked sites, or parts of sites, that presented some kind of development opportunity for them. Instead of owning the sites outright, they were in fact sold to holding companies such as Broken Cross OCCW, or House of Water OCCW. These companies hold no assets, and were created specifically in order to take ownership of the sites. These holding companies have exclusive contracts with Hargreaves Services to operate the sites, or carry out restoration works.

Through this kind of agreement, Hargreaves has been allowed to mine any remaining coal from a number of sites that were operational at the time of the collapse without having to take on any of the restoration liabilities. At other sites where coaling had finished and some bond money has been made available, Hargreaves has been allowed to re-negotiate restoration agreements with local authorities such that the restoration work can be achieved with the bond money available. These agreements have been renegotiated behind closed doors and with no public consultation, and Hargreaves has been appointed the sole contractor for the works. This means that rather than having to take on financial liability for the sites, Hargreaves are profiting from what little bond money there is available instead.

Even at sites that weren't owned by the mining companies before their collapse, Hargreaves has maintained control over them without having to take on any of their liabilities by taking on ownership of site access, such that permission must be granted by Hargreaves before any other contractor can access the site. Consequently, they have also been appointed sole restoration contractor to sites owned by individual landowners.

Through these complex contracted agreements, Hargreaves has positioned itself as the only group to benefit from the restoration crisis. It has been allowed to mine remaining coal reserves with machinery it bought almost for free, and instead of being liable for site restorations, it is being contracted to carry out scant remediation works at a profit with what small amount of bond money has been available. On top of this, it has also gained control of potentially lucrative assets in the form of wind farm consents, and heavy plant machinery.

Sites with no commercial interest to Hargreaves were bought by the SMRT, although no plans have so far been devised for these sites. The Glentaggart site in South Lanarkshire is a particularly depressing example of how, despite the end of coaling operations, sites are still causing harm to local communities and the environment. Glentaggart was abandoned by Scottish Coal in 2013. The site's land owner Douglas & Angus Estates then entered into an agreement with Scottish Water to dump close to 1 million tonnes of raw sewage sludge into the site, despite the planning consent for the site ruling out anything other than the agreed restoration works, which didn't involve sewage sludge. Supposedly for “soil enhancement”, sewage sludge dumping on agricultural land is highly lucrative to Scottish Water as it allows them to avoid hefty landfill taxes. Local residents have complained about terrible smells and pollution to local watercourses, as well as the large number of lorries passing through nearby villages. As far as they are concerned, this just adds insult to the injury caused by decades of opencast coal mining. Hargreaves retained control of access to the Glentaggart site, and now that restoration bond money has been released for the site to South Lanarkshire Council, Hargreaves has been appointed sole contractor to carry out restoration work on the site, alongside the sewage sludge dumping.

This is just one example of the continuing injustice faced by coal communities in the central belt of Scotland. Even though the industry is now a fraction of what it once was, and very little coal is coming out of Scotland's opencast mines, the legacy of the industry will continue to harm communities, and Scotland's environment, for many generations to come.

THE MINERS' STRIKE

In 1984-1985 parts of Britain's coalfields appeared to be in a civil war. The Conservative Thatcherite Government wanted to smash the powerful trade unions and chose the coalfields, with mines which were in State ownership, as the battle ground. Margaret Thatcher famously described miners as "*the enemy within*". The government planned to close 20 deep coal mines, making 20,000 men unemployed. The miners were not prepared to accept this as there was still coal in the mines. [40]

Miners from the National Union of Miners (NUM) went on strike and mines were picketed to prevent non-NUM member miners going to work. At its height, 165,000 miners were on strike. [40] Flying pickets involved miners travelling sometimes long distances to picket at mines other than those they worked at. Those who went to work in the collieries, or tried to, were called 'scabs', and subject to verbal and occasionally physical abuse. The police tried to enable the 'scabs' to go to work and suppress the miners.

At the famous Battle of Orgreave, 18th June 1984, at the Orgreave Coking plant in South Yorkshire, the police charged the 8,000 striking miners on horseback. The BBC was complicit in framing the miners as the aggressors as they reversed the order of the TV footage to show miners attacking police by throwing stones and then the police retaliating. Now it is agreed that the police started the aggression by charging the miners with truncheons and short shields from horseback, hitting some of the strikers over the head and beating people into unconsciousness, as their official purpose was to 'incapacitate' the striking miners. The criminal case brought against the 95 miners, charged with rioting, fell to pieces a year later as the police were discredited under cross-examination. [41] The Orgreave Truth and Justice Campaign are seeking an investigation into police conduct at Orgreave, but so far this has been officially denied because of the amount of time since the event. [42]

"*During the strike 20,000 people were injured or hospitalised (including NUM President Arthur Scargill). 200 served time in prison or custody. Two were killed on picket lines, three died digging for coal during the winter and 966 were sacked.*" [43]

Life in the working class mining communities was severely disrupted with families suddenly finding themselves without income. Miners and their supporters came together with communal kitchens, donations were made from members of the public and there was a great sense of camaraderie among striking miners. The miners were on strike for 51 weeks from March 1984. In the end, between 1985 and 1997, 150 collieries and 250,000 jobs were lost. [44] Some of the pits were later bought by their workers, such as Tower Colliery which closed in 2008 when the coal was finished. [45] Many more were closed in the 1980s.

"*Remember, 966 men were originally sacked for no more than honouring picket lines, defending their jobs and pit communities, their class and the future of their children. Only a small number of miners had been dismissed for [offences] against the person or damage to property.*" [43]

The effect of the closure of the mines on the communities living in the coalfields is still felt. A governmental task force in 1997 found, coalfield communities have "*a unique combination of concentrated joblessness, physical isolation, poor infrastructure and severe health problems. The contraction of the coal industry has been so rapid that mainstream government programmes have failed to readjust to offer an adequate level of support*." [46] The current trend of mining by opencast consolidates these problems. The Green Valley's Alliance says, "*we also know that an opencast mine will deter new investors from moving into the region, meaning that any new jobs introduced by the mine would be offset by businesses leaving the area and not being replaced*." [47]

The miners' strike and the community solidarity surrounding it mean that many of the coalfield areas still have a strong attachment to coal. Many of those who worked in the deep mines and power stations still want there to be a future for coal and hope this can be achieved through deep mining and burning coal carbon capture and storage. This is seen by some as a solution to the socio-economic problems in some former coal mining areas and avoids most of the localised environmental destruction of opencast.

LYNDA AT THE BRITISH SITE. CAN

THE IMPACT OF WELSH COAL MINING ON LOCAL PEOPLE

"*I was politicised by the miners strike*" says Lynda Clarkson, who has lived all of her life in South Wales, and her life story, like the local landscape, is intertwined with the coal mining industry. She is an active campaigner with NO Opencast (Varteg Hill) against the Varteg application site near to Garndiffaith, Torfaen. "*For all the people around here this would be the third time the site has been re-mediated. It would mean a massive amount more destruction to the community and the environment.*" The Glamorgan Power Company originally had its application rejected at planning, but then appealed. The appeal was withdrawn but subsequently a new, marginally different application has been submitted and is waiting to be heard by Torfaen Council.

For local people the cycle of applications is draining, but their resilience is strong and they are incredibly aware that the companies hope to grind down the local people and council to be able to exploit new coal which for which there is clearly no community consent.

The continual rounds of planning applications sucks up councils' hard pushed resources which means less of the essential services for local people in what is acknowledged to be a deprived area. The council has withdrawn its funding for tourism, something which local people really feel could bring positive effects to the area.

Living with an underground miner, the 1984-1985 miners' strikes have had long lasting effects on Lynda and her community. "*We remember who the scabs were.*" Fighting the Tories' planned closures of coal mines was a fight of community versus state. "*There was a massive camaraderie around the pits. They relied on each other, almost like being at war, in a battle. Nothing was going to replace it and all those community links died with the industry[...] In the '80s we were dependent on coal, but it left us and we have adjusted to that, in a way, 30 years down the line. People commute from here nowadays [...] We have never recovered around here, the only recovery is nature.*" Now this natural regeneration is under threat, as is the health of the next generation of families from the valleys.

FFOS-Y-FRAN OPENCAST MINE, MERTHYR TYDFIL, SOUTH WALES, IN 2011. CARADOG LLYWELYN

One of Lynda's main concerns is for the local primary school, Ysgol Bryn Onnen, just 100m from the opencast site. A leader in child-centred education, the school teaches 50% of their lessons outside. Due to the prevailing winds they would be in the direct line of the dust if there were a mine on the site. It is Glamorgan Power's intention to construct a 35m bund, to act as a visual and noise shield between the built up areas and school. However, heavy dust particles drop to earth close to the point of creation and so are likely to hit the school and surrounding area. "*I've got asthma, and so have lots of the children in the school and I'm worried about that*" said one of the teachers, who we encountered outside the primary school. Some of the parents have said that if the mining were to start, they would move their children out of the school, which could in turn mean in a reduction in teaching staff.

The coal would be taken to the washing facility at the UK's biggest opencast mine, Ffos-y-Fran, 16 miles away by road, causing additional difficulties for local people with increased HGV traffic.

Lynda explains that as a miner's partner she went into all of the mines her partner worked in. Her partner said if he had to go down them every working day, she should go down them to understand what it was like.

"*It was far more dusty than Big Pit [an old colliery employing 1,300, now one part of the National Museum of Wales] would lead you to believe. I went down [...] and on one side it was really hot, on the other it was freezing and the men worked in shorts with water up to their thighs.*"

"*It was always something to cry about if one of your boys went underground. As a nurse, I've held the hand of so many men coughing up coal dust*." She is concerned that the legacy of underground mines is not being considered sufficiently in new applications. "*There are massive underground waterways, they talk about surface water all the time, what about underground water? The river here used to run orange. Now the water is treated as it comes out of the mountain in huge reed beds, there are kingfishers in the river and otters on the banks. All this could be lost*."

Lynda and the other campaigners want the Minerals Technical Advice Notes (MTAN) to be made law. These state that coal site boundaries should be at least 500m from settlements. Ysgol Bryn Onnen primary school is within 100m. At the moment MTAN and its buffer zone is only a guideline and essentially meaningless. The valley has moved on from coal and the Blaenavon area, adjacent to the application site, is a UNESCO (United Nations Education, Scientific and Cultural Organisation) World Heritage site. There is concern that

a new opencast could mean the status, and associated tourism and money, is taken away. The community want to remember the industrial past, the tramways, different sorts of historic mining and the men who laboured here, but recognise that any further mining will paint the valley sides black again, as was the case in Lynda's childhood. The employment would only be short lived, temporary jobs, most likely for people living out of the area and not directly affected by the negative impacts.

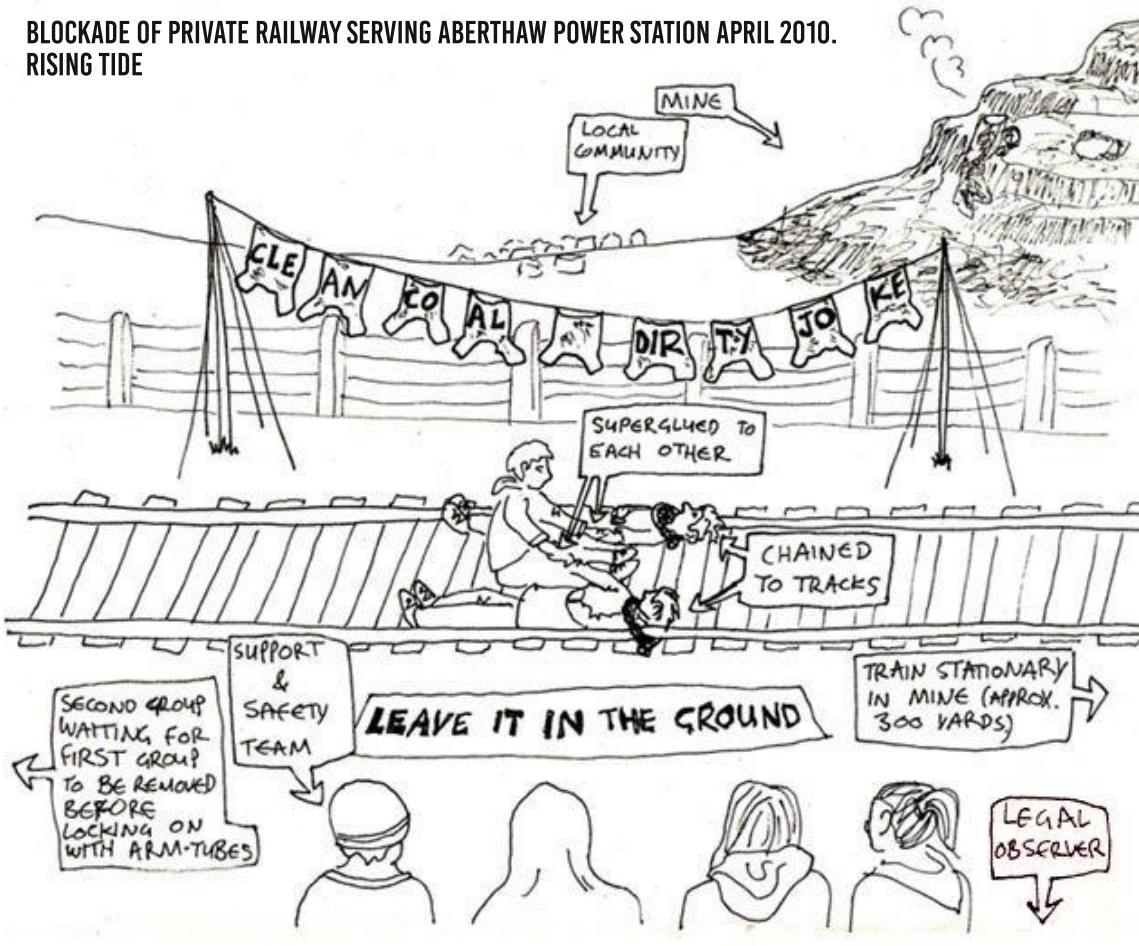
Just down the road from the application site at the Varteg, lies a coal application site named The British, at a former iron works area overlooked by many local people's homes and below an area of common land. There are two protected heritage sites and peregrine falcons have returned to the site's boundaries, with accompanying press interest, presumably hunting over the proposed site. There is not an active application running for this site, although there has been in the past, and local peoples' experience is that it will be subject to one again. It is incredibly close to housing on three sides and the estates on the opposite valley side would easily see over any attempts to screen the workings and also be subject to the dust on the prevailing wind. Local people have a solution for this site - extend the existing Heritage Mineral railway line down over the viaduct, open a visitors' centre and clean up the surface of the site. They want to create an asset for the local area, to celebrate its past but look to a cleaner future. From an energy point of view, a community owned hydro power scheme could be installed in the nearby fast flowing rivers without any of the damages associated with coal mining.

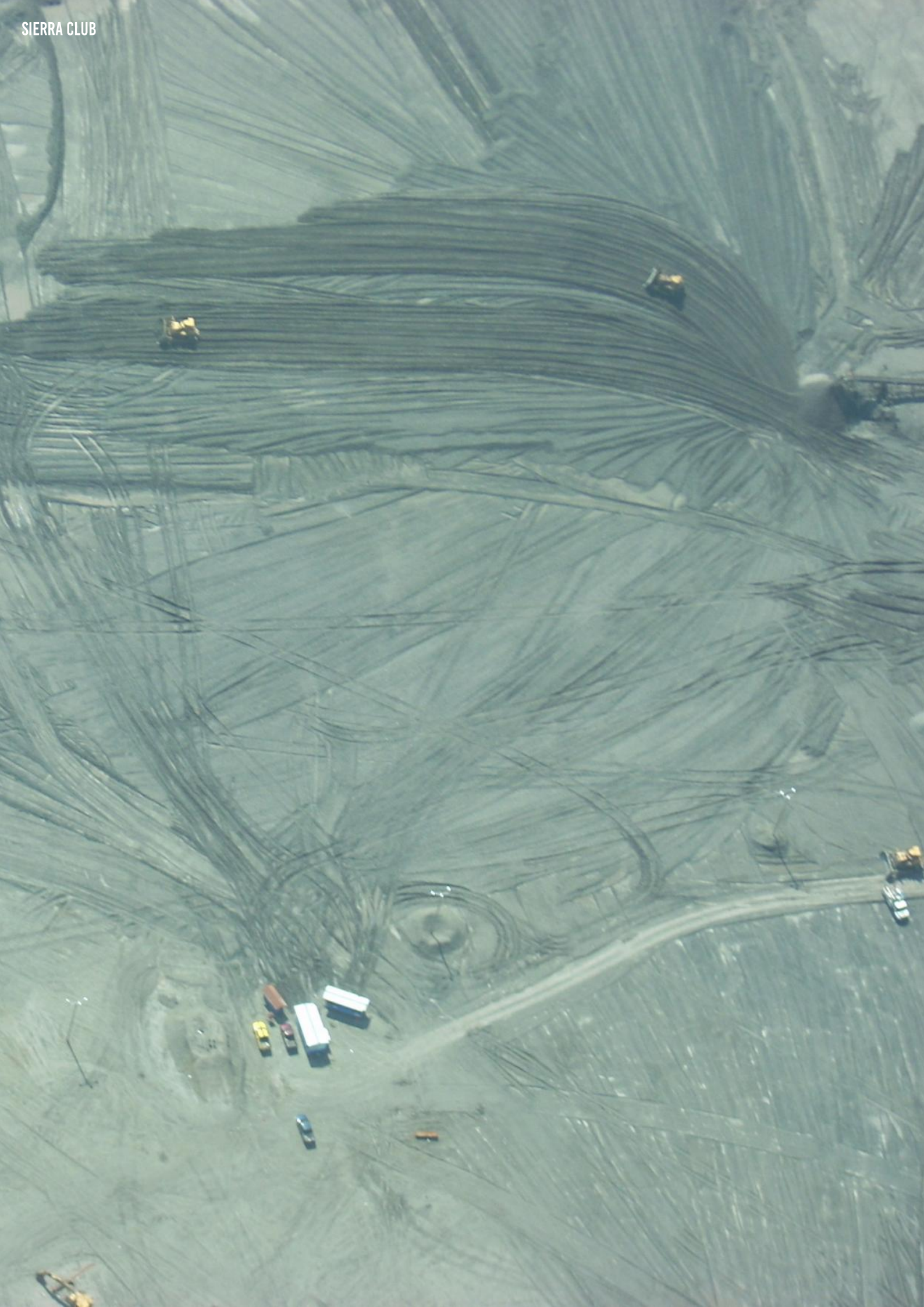
CONCLUSION

The UK has a long and bitter history of coal mining and community struggle for and against mining. The economics of coal, as well as forced pit closures, have driven coal production towards opencast mining, which is more damaging for both the communities around mines and the local environment. Wherever there have been applications to opencast in the UK there has been strong opposition from local people, many of whom worked or had family members who worked in the deep mines. Communities fighting coal mines suffer from a planning system which favours businesses over local people, and which is inadequate to ensure proper restoration. The low international coal price, combined with effective campaigns against opencast mines, and reduced demand from power stations, has hit the coal mining industry in the UK hard. This has led three of the major companies to collapse in recent years. The situation has provided little reprieve for local people as the failed mining companies have left a trail of abandoned sites behind them.

The authors of this report believe that the ongoing negative impacts of coal mining in the UK, as well as the likely future impacts of new applications, justify the introduction of an immediate ban on opencast coal mining, in tandem with a complete and timely phase out of coal-fired power stations. Without a ban, more communities and landscapes will be affected by new opencast mines and extensions to existing ones. Further still, this would inevitability result in more unrestored and abandoned sites, as continued reductions in both the price of and demand for coal force more companies to walk away from their responsibilities.

BLOCKADE OF PRIVATE RAILWAY SERVING ABERTHAW POWER STATION APRIL 2010. RISING TIDE





PART 2

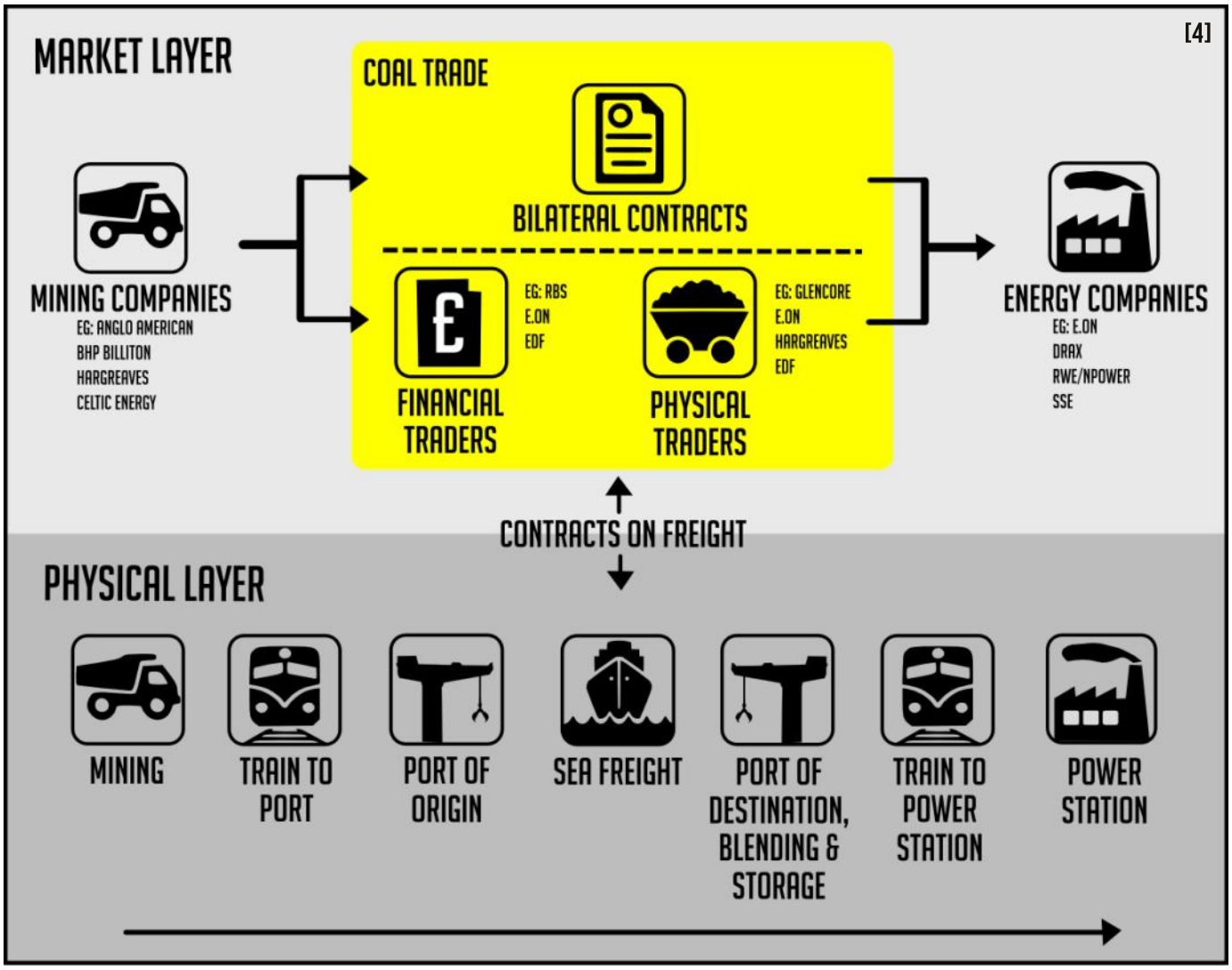
HOW POWER STATIONS SOURCE THEIR COAL

GLOBAL SUPPLY CHAIN PROCESS

The global coal supply chain that links coal exported from ports in Russia, USA, and Colombia to the UK, has similar handling processes, involving logistics companies, commodities traders and finally, energy companies. Many companies relevant to the UK context are involved in several parts of this process. For example:

• Glencore is involved in more than just Colombian coal. In 2013 it became the world's largest commodity trader, buying and selling coal. [1]

• EDF, the French energy company largely owned by the French State, is a commodities trader. "*We export millions of tons annually and have assets including barge and rail capacity contracts as well as terminal throughput agreements.*" [2] It owns Cottam and West Burton power stations and trades CO_2 credits. [3]



• E.ON Global Commodities operates an integrated coal and marine freight logistics business. It manages the entire supply chain from port to power station, and has the capability to source, store, blend, transport, and trade coal on a global scale.

COAL COMMODITY TRADING

This report focuses on the physical trade in coal, attempting to link coal from mines to power stations where it is burnt. This is complicated by the fact that coal is traded physically but also financially. The physical trade of coal concerns the export, shipping, import, and storage of actual physical coal.

The financial trade of coal on the other hand deals mainly with the trade in coal in the "futures market" where physical traders agree a delivery price for coal in the future. Financial institutions and commodity traders then speculate on the market price for coal, buying and selling these contracts for financial gain without having any involvement in the physical delivery of the coal. This can lead to stockpiling of coal at ports, which causes additional confusion regarding its origin.

Large energy companies are increasingly becoming involved in this type of trading, and many have set up trading desks that deal primarily in the financial trade. Financial institutions and traders are likewise becoming increasingly involved in the physical coal market. [5]

SHIPPING

Bulk Carriers

Coal is shipped in dry bulk cargo ships. HMRC provides data about coal imports to each UK port but it only lists country of origin, rather than port of origin. In order to explore how possible it is to track coal from mines to UK power stations, CAN monitored ships containing coal leaving from ports in Russia, Colombia, and USA during August 2015. (See Appendix V)

Russian coal is exported to Europe from two ports within Russia, two ports in Latvia and one in Estonia. Of the two ports in Russia, Murmansk is a seasonal port so CAN focused its monitoring on exports from Ust-Luga, which is the main port sending coal in a westward direction and operates all year-round. Ust-Luga receives coal from the Kuzbass Region of Russia, mined by SUEK and Kuzbassrazrezugol, which use Carbo One to transport its coal to this port (see Part 1, pages 11-22). Two examples of ships travelling from Ust-Luga to the UK are:

• AP Jadran sailed from Ust-Luga to Immingham and docked on 16th August 2015, carrying 79,336 tonnes of coal;
• Lucky Sunday sailed from Ust-Luga to Immingham and docked on 15th August 2015, carrying 80,373 tonnes of coal.

Port of Origin	Number of Ships Leaving	Destination in Europe	Destination in UK	UK Port	Destination Rotterdam/ Amsterdam
Ust Luga	30	25	3	Immingham x2 & Belfast	5
Puerto Bolivar	26	10	2	Hunterston	3
Puerto Drummond	18	5	0		2
Puerto Nuevo	15	6	1	Hunterston	3
New Orleans	14	3	0		1
Total	**103**	**49**	**6**		**14**

51% of coal exported from the USA to the UK comes from New Orleans terminals. CAN monitored ships from International Marine Terminals and United Dry Bulk Terminal, south of the city on the Mississippi River. United Dry Bulk is supplied in part by Alpha Natural Resources, which operates mountain top removal mines in Appalachia (see pages 47-50) and in part by Peabody, with mines in the Powder River Basin and Illinois coal basin (see pages 43-44). International Marine Terminal is supplied in part by Alpha Natural Resources.

Over 90% of Colombian coal is exported from three privately owned ports, owned by the mining companies themselves. Puerto Bolivar is owned by operators of Cerrejón, Puerto Nuevo by Prodeco, and Puerto Drummond by Drummond. CAN monitored ships from all of these ports. Three examples of ships travelling from Colombia are:

• Ocean Cyngus sailed from Puerto Bolivar (Cerrejón's port) on 8th August 2015 and arrived 12 days later at Hunterston;
• Santa Regina sailed from Puerto Bolivar to Belfast on 4th September 2015;
• Shagang First sailed from Puerto Nuevo (Prodeco's port) on 24th August to Hunterson.

The ships observed travelling from Ust-Luga to Europe were generally between 60–90,000 tonnes, while ships from Colombia to Europe ranged from 170-185,000 tonnes. No ships were observed travelling from USA terminals to Europe.

Hunterston is the only UK port large enough to receive coal directly from Colombia. Eight ships were observed travelling from Colombia to Amsterdam and Rotterdam. Coal from these two ports is redistributed throughout Europe.

It is possible that some ships travelling to the UK were missed, particularly from New Orleans, which had to be monitored daily. Nonetheless this helps to paint the picture of the current supply of coal to the UK.

Environmental Impacts of Shipping

Shipping coal around the world carries its own environmental costs. Although shipping is generally considered to be the most efficient form of large-scale transport, because of its scale, it is the most polluting transport industry, and is responsible for 3% of global greenhouse gas emissions.

CAN calculated the carbon dioxide emissions of transporting coal by ship from ports in Colombia, Russia and the USA. A 100,000 tonne dry bulk carrier transporting coal can be expected to produce the following carbon dioxide emissions from the following destinations:

• Santa Marta, Colombia to Hunterston: 4,766 tonnes of CO_2;
• Riga Terminal, Latvia to Immingham: 1,223 tonnes of CO_2;
• New Orleans, USA to Immingham: 5,577 tonnes of CO_2.

These calculations only cover the actual shipping emissions, and do not include, for example, emissions from port construction and fuel production, or from related train journeys to the ports. (A full list of activities which generate related emissions, along with the methodology for these calculations can be found in Appendix VI). The figures would be even higher with these extra sources of emissions factored in.

Bulk carriers tend to use cheap, polluting, heavy fuel oil, [6] which contains up to 2,000 times the amount of sulphur than the diesel fuel used in cars. One large ship alone can generate approximately 5,200 tonnes of sulphur oxide pollution in a year. In addition, shipping produces 18-30% of global nitrogen dioxide emissions. [7] Other studies have found that the environmental impacts of shipping coal long distances are significant. This includes a life cycle analysis of coal mined and burnt in the USA with transporting coal to South Korea. [8]

Coal dust is notoriously difficult to control and affects human health as well as terrestrial and marine environments. Coal dust is produced all along the supply chain, from the mining processes, from transport on trains and barges, at coal terminals and other

PUERTO BOLIVAR, COLOMBIA, IN 2005. JVILLEGAS

handling stages, and whilst at sea. Particulate matter emissions from open top coal transport is a particular concern. In the case of coal trains in the USA, it has been calculated that some 250-900kg of coal can escape a single loaded car. [9]

Trouble at Sea

In 2013 Drummond dumped more than 2,000 tonnes of coal into the Caribbean Sea in an incident which the company failed to report to the authorities. The company was fined $3.6 million and ordered to pay for an extensive clean-up of the coastline and beaches, many of which were stained by the coal. Drummond was accused of covering up the accident. The company claimed it had to dump the coal to prevent its barge from sinking, but did not notify environmental authorities about the incident until more than a week later, only after photos of the incident taken by a local environmental activist and journalist were posted on social-media sites. An assassination attempt relating to the release of this information is documented in a personal account in the section on Colombia on page 31. [10]

PORTS

In the UK there are seven major coal ports which, in the last year (September 2014 – August 2015), received 90% of the UK's imported coal, totalling 22.7 million tonnes. [11] Coal is often blended and redistributed in port, and then sold on to transportation and energy companies. [12] The largest port by a considerable margin is Immingham, which received 38% of imports. [11] It is worth noting that the total imports in 2014 reported by the Department of Energy & Climate Change (DECC) were 42 million tonnes. [13] This is a significant difference of 19.3 million tonnes, despite the two data sets overlapping by four months. It clearly shows a significant decline in demand for coal from UK power stations, and is an indication that power stations have been consuming stockpiles in recent months.

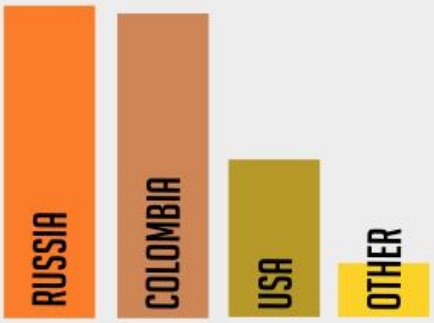
Of these seven major ports, Liverpool and Teesport have not received coal imports since April 2015, coinciding with the doubling of the Carbon Price Floor (discussed further on page 86). In addition, redundancies have been announced at the Port of Tyne and Immingham, which still receive significant volumes of coal. [14]

THE UK'S MAJOR COAL PORTS

SOURCE: HMRC TRADE STATISTICS SEPTEMBER 2014 - AUGUST 2015

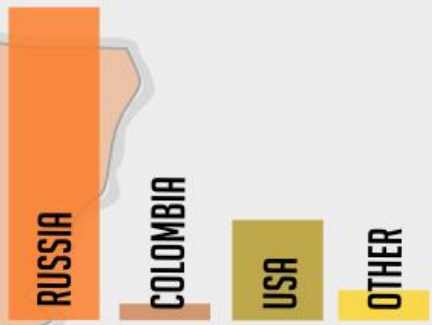
1. IMMINGHAM
GRIMSBY, ENGLAND

IMPORTS AS A % OF PORT TOTAL



2. HUNTERSTON
LARGS, SCOTLAND

3. AVONMOUTH
BRISTOL, ENGLAND



TOTAL COAL IMPORTS TO EACH MAJOR PORT
(MILLIONS OF TONNES)

IMMINGHAM: 8.63MT

HUNTERSTON: 3.12MT

AVONMOUTH: 2.48MT

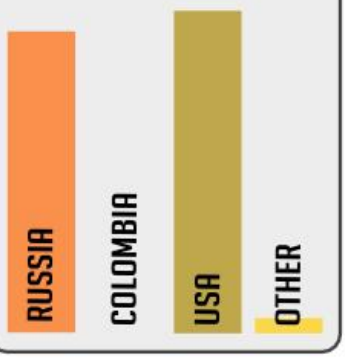
TYNE: 2.08MT

MIDDLESBROUGH 1.65MT

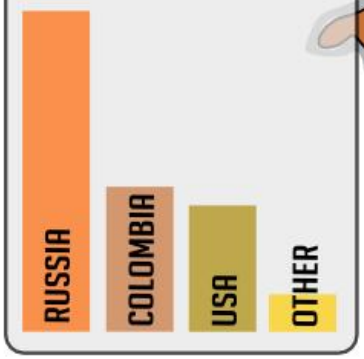
LIVERPOOL: 1.38MT

BELFAST 1.11MT

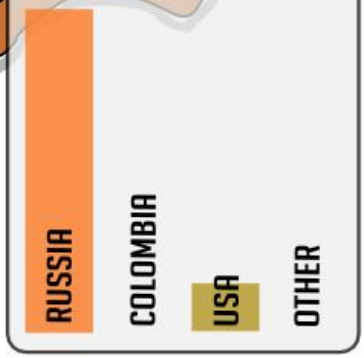
4. TYNE
NEWCASTLE, ENGLAND



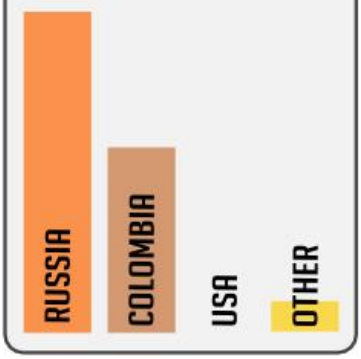
5. TEESPORT
MIDDLESBROUGH, ENGLAND



6. LIVERPOOL
ENGLAND



7. BELFAST
NORTHERN IRELAND



UK Coal Terminals

IMMINGHAM

Total coal imports in last year: 8.63Mt (Russia 38%, Colombia 37%, USA 19%) [11]

Hargreaves operates the Immingham Coal Terminal which can handle up to 20 million tonnes of coal a year. [15] It also distributes coal by rail to power stations and is the main mining company active in Scotland. [16] Immingham receives 37% of its coal from Colombia, but the port can only accept ships up to 198m in length. Bulk carrier ships from Colombia are generally 292m long, which is too large for Immingham. This suggests that Colombian coal is being transferred on to smaller ships in bigger ports such as Amsterdam, Rotterdam, and Antwerp, and then distributed throughout Europe. [17]

HUNTERSTON

Total coal imports in last year: 3.12Mt (Russia 18%, Colombia 67%, USA 15%) [11]

The Hunterston Coal Terminal belongs to The Peel Group. It is the only UK port large enough for direct unloading of bulk carriers from Colombia. It is currently consulting over closure of the terminal as the main destination of its coal is Longannet Power Station, which is closing in early 2016. [18] HMRC data shows Sri Lanka to be the largest exporter of coal to Hunterston. For the purposes of this report it has been assumed that this coal is actually from Colombia. See pages 94 & 95 for more details on this.

AVONMOUTH

Total coal imports in last year: 2.48Mt (Russia 69%, Colombia 3%, USA 22%) [11]

The port of Avonmouth is owned and operated by the Bristol Port Company. [19]

PORT OF TYNE

Total coal imports in last year: 2.08Mt (Russia 47%, Colombia 0%, USA 50%) [11]

The Port of Tyne is governed by an independent board appointed by the Secretary of State for Transport; there are no shareholders or owners. The port is run on a commercial basis and operates for the benefit of its stakeholders. [20] Port of Tyne was the second biggest coal handling port in 2013, [21] but is currently the 4th largest in terms of volume of imports.

TEESPORT

Total coal imports in last year: 1.65Mt (Russia 51%, Colombia 23%, USA 20%) [11]
Teesport is operated and owned by PD Ports who are involved in 12 ports in the UK. It announced that 80 jobs would be lost at Teesport following the closure of the SSI steal plant in Redcar in October 2015 which it supplied with coking coal. [22]

COAL LOADING FACILITY AT AVONMOUTH PORT. JEZHOTWELLS

LIVERPOOL

Total coal imports in last year: 1.38Mt (Russia 87%, Colombia 0%, USA 13%) [11]

The port is operated by Peel Ports Group. [23]

PORT OF BELFAST

Total coal imports in last year: 1.11Mt (Russia 59%, Colombia 34%, USA 0%) [11]

Around 70% of Northern Ireland's and 20% of Ireland and Northern Island's combined seabourne trade is handled at the Harbour each year. [24] Ireland has only one coal-fired power station, Moneypoint, in Co. Clare, which also has its own jetty. Belfast supplies Kilroot power station, [25] but the power station also has its own jetty. Peel Group offers stevedoring (docking) services from this port. [26]

PORT OF BLYTH

The Port of Blyth is the operating division of Blyth Harbour Commission, a Trust Port operated for the benefit of its stakeholders. [27] Blyth has substantial coal handling capacity, but has not received imports by sea for the last two years. The majority of the coal handled at the Port of Blyth is received by road from the Banks Mining-operated Shotton and Brenkley Lane opencast mines in Northumberland, and loaded on to trains for transport to power stations. Approximately 1.14 million tonnes was handled in 2014, and a similar figure is expected for 2015. [28]

TRAINS

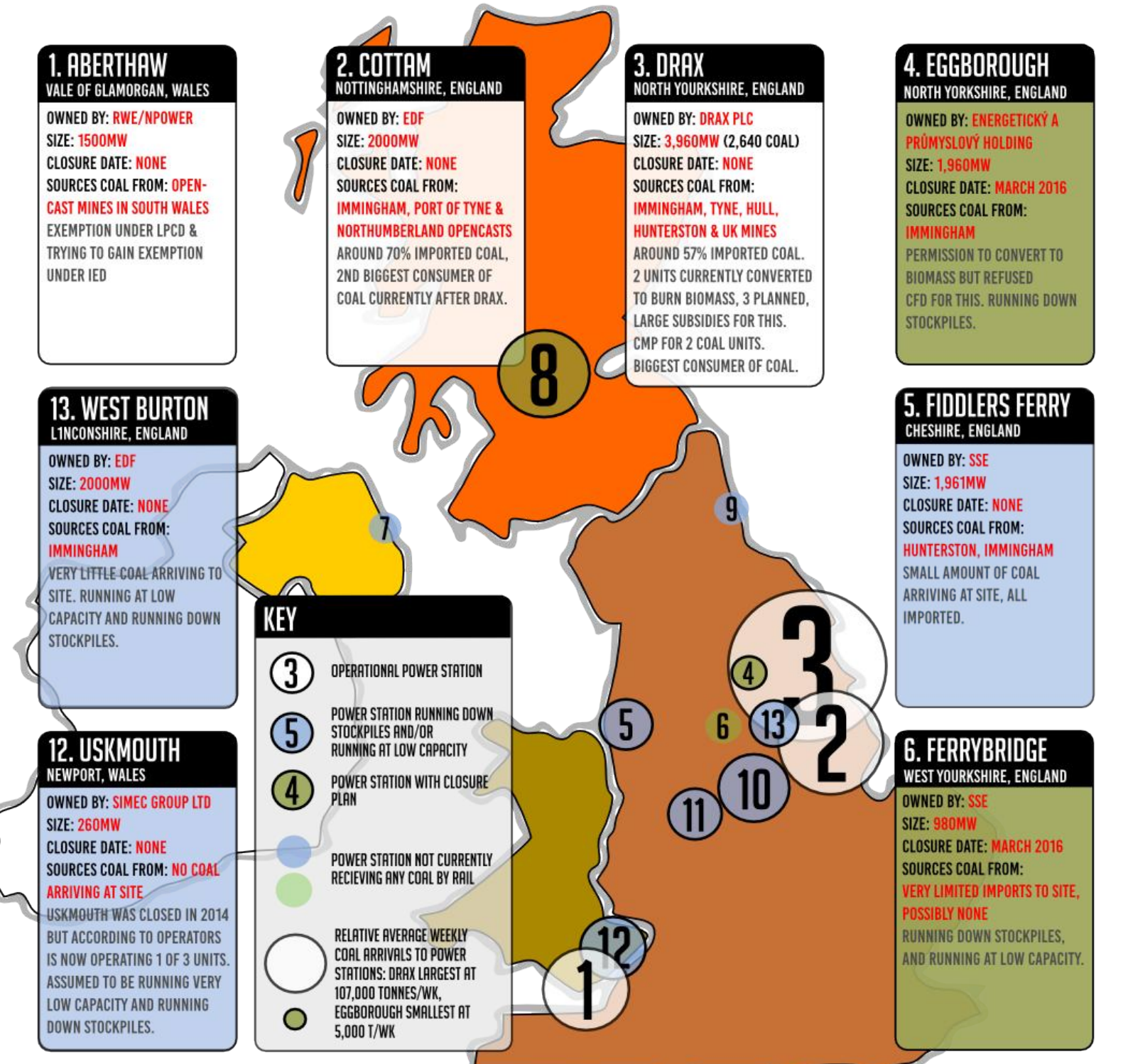
Coal is predominantly transported from ports to power stations by rail. This is done by several companies such as GB Railfreight, which moves up to 30% of the coal on the rail network. [29] Coal traffic on the railways between April and June 2015 dropped by 61% compared to just 12 months earlier. The annual rate of decline is 19.5% when 2014-5 is compared with the previous year. [30]

GB Railfreight has operated coal trains out of Tyne and Immingham, as well as moving locally mined coal including from UK Coal's Thoresby and Potland Burn railheads. It has also run services for Drax, delivering imported coal from the Port of Tyne, and operating daily trains for EDF Energy to West Burton and Cottam power stations in Nottinghamshire. [29]

COAL FREIGHT TRAIN. JUDITH DELAND

THE UK'S COAL-FIRED POWER STATIONS

SOURCES: REALTIMETRAINS.CO.UK, UKENERGYWATCH.ORG, VARIOUS OTHER SOURCES



1. ABERTHAW
VALE OF GLAMORGAN, WALES

OWNED BY: RWE/NPOWER
SIZE: 1500MW
CLOSURE DATE: NONE
SOURCES COAL FROM: OPEN-CAST MINES IN SOUTH WALES
EXEMPTION UNDER LPCD & TRYING TO GAIN EXEMPTION UNDER IED

2. COTTAM
NOTTINGHAMSHIRE, ENGLAND

OWNED BY: EDF
SIZE: 2000MW
CLOSURE DATE: NONE
SOURCES COAL FROM: IMMINGHAM, PORT OF TYNE & NORTHUMBERLAND OPENCASTS
AROUND 70% IMPORTED COAL, 2ND BIGGEST CONSUMER OF COAL CURRENTLY AFTER DRAX.

3. DRAX
NORTH YOURKSHIRE, ENGLAND

OWNED BY: DRAX PLC
SIZE: 3,960MW (2,640 COAL)
CLOSURE DATE: NONE
SOURCES COAL FROM: IMMINGHAM, TYNE, HULL, HUNTERSTON & UK MINES
AROUND 57% IMPORTED COAL. 2 UNITS CURRENTLY CONVERTED TO BURN BIOMASS, 3 PLANNED, LARGE SUBSIDIES FOR THIS. CMP FOR 2 COAL UNITS. BIGGEST CONSUMER OF COAL.

4. EGGBOROUGH
NORTH YORKSHIRE, ENGLAND

OWNED BY: ENERGETICKÝ A PRŮMYSLOVÝ HOLDING
SIZE: 1,960MW
CLOSURE DATE: MARCH 2016
SOURCES COAL FROM: IMMINGHAM
PERMISSION TO CONVERT TO BIOMASS BUT REFUSED CFD FOR THIS. RUNNING DOWN STOCKPILES.

13. WEST BURTON
L1NCONSHIRE, ENGLAND

OWNED BY: EDF
SIZE: 2000MW
CLOSURE DATE: NONE
SOURCES COAL FROM: IMMINGHAM
VERY LITTLE COAL ARRIVING TO SITE. RUNNING AT LOW CAPACITY AND RUNNING DOWN STOCKPILES.

5. FIDDLERS FERRY
CHESHIRE, ENGLAND

OWNED BY: SSE
SIZE: 1,961MW
CLOSURE DATE: NONE
SOURCES COAL FROM: HUNTERSTON, IMMINGHAM
SMALL AMOUNT OF COAL ARRIVING AT SITE, ALL IMPORTED.

KEY

- 3 — OPERATIONAL POWER STATION
- 5 — POWER STATION RUNNING DOWN STOCKPILES AND/OR RUNNING AT LOW CAPACITY
- 4 — POWER STATION WITH CLOSURE PLAN
- POWER STATION NOT CURRENTLY RECIEVING ANY COAL BY RAIL
- RELATIVE AVERAGE WEEKLY COAL ARRIVALS TO POWER STATIONS: DRAX LARGEST AT 107,000 TONNES/WK, EGGBOROUGH SMALLEST AT 5,000 T/WK

12. USKMOUTH
NEWPORT, WALES

OWNED BY: SIMEC GROUP LTD
SIZE: 260MW
CLOSURE DATE: NONE
SOURCES COAL FROM: NO COAL ARRIVING AT SITE
USKMOUTH WAS CLOSED IN 2014 BUT ACCORDING TO OPERATORS IS NOW OPERATING 1 OF 3 UNITS. ASSUMED TO BE RUNNING VERY LOW CAPACITY AND RUNNING DOWN STOCKPILES.

6. FERRYBRIDGE
WEST YOURKSHIRE, ENGLAND

OWNED BY: SSE
SIZE: 980MW
CLOSURE DATE: MARCH 2016
SOURCES COAL FROM: VERY LIMITED IMPORTS TO SITE, POSSIBLY NONE
RUNNING DOWN STOCKPILES, AND RUNNING AT LOW CAPACITY.

11. RUGELEY
STAFFORDSHIRE, ENGLAND

OWNED BY: GDF SUES AND MITSUI & CO
SIZE: 1,000MW
CLOSURE DATE: NONE
SOURCES COAL FROM:
SMALL AMOUNT OF COAL IMPORTED FROM IMMINGHAM & AVONMOUTH. RUNNING DOWN STOCKPILES AND AT LOW CAPACITY.

10. RATCLIFFE-ON-SOAR
NOTTINGHAMSHIRE, ENGLAND

OWNED BY: E.ON
SIZE: 2000MW
CLOSURE DATE: NONE
SOURCES COAL FROM: IMMINGHAM, HUNTERSTON & NORTHUMBERLAND OPENCASTS
COAL ARRIVALS VARY GREATLY, ASSUMED TO ALSO BE RUNNING DOWN STOCKPILES.

9. LYNEMOUTH
NORTHUMBERLAND, ENGLAND

OWNED BY: RWE/NPOWER
SIZE: 420MW
CLOSURE DATE: NONE
SOURCES COAL FROM: NO COAL BY RAIL TO POWER STATION
PERMISSION TO CONVERT TO BIOMASS & AWARDED CFD, SUBJECT TO EC APPROVAL. CURRENTLY OPERATIONAL ACCORDING TO RWE.

8. LONGANNET
ALLOA, SCOTLAND

OWNED BY: SCOTTISHPOWER
SIZE: 2,260MW
CLOSURE DATE: MARCH 2016
SOURCES COAL FROM: HUNTERSTON, LIMITED AMOUNT BY ROAD FROM SCOTTISH OPENCAST
RUNNING DOWN STOCKPILES, THOUGH IMPORTS HAVE INCREASED SUBSTANTIALLY

7. KILROOT
CARRICKFERGUS, NORTHERN IRELAND

OWNED BY: AES
SIZE: 520MW
CLOSURE DATE: NONE
SOURCES COAL FROM: UNCLEAR, NO IMPORTS TO SITE BY RAIL
KILROOT HAS DUAL OIL AND COAL BOILERS. IT IS ASSUMED THAT COAL ARRIVES TO KILROOT FROM BELFAST PORT VIA ITS JETTY, OR BY ROAD

POWER STATIONS AND ENERGY COMPANIES

"The nine dirtiest coal power plants in the UK collectively put nearly 100 million tonnes of CO_2 into the atmosphere in 2012. Despite their colossal emissions, these plants provided only a third of the UK's electricity - because they converted coal to electricity at an average efficiency of 36%." [31]

There are currently 13 operating power stations capable burning coal in the UK. All were built in the late 1950s to 1970s. There is only one proposed new coal-fired power station, the White Rose Project, which would theoretically use carbon capture and storage technology. However, at present, it is unlikely that this development will go ahead. For more detailed information on the UK's coal-fired power stations see Appendix VII.

POWER STATION COAL SOURCING

In order to consult with power stations over their coal supply chains, CAN emailed all of the operators with a questionnaire (see Appendix III). Sadly, few of the operators were prepared to engage with CAN over this. Where they have, their responses are included in the power station information below.

CAN therefore had to conduct its own data analysis in order to ascertain where the UK power stations are sourcing their coal from. The results of this analysis are listed below under the information about each power station, and the raw data for this analysis can be found in Appendix VIII. CAN gathered data on freight train movements to power stations from Realtime Trains (**http://realtimetrains.co.uk**) over four different one week periods between July and October 2015. Using this information, and the import data available from HMRC, and in the absence of disclosure from power station operators, CAN has made estimates of the relative proportions of coal arriving at each power station from each country of origin, as well as weekly volumes of coal received at each power station by rail. It should be noted that this analysis is not an accurate picture of power station sourcing, due to the many factors affecting how power stations source coal, but it gives a "best estimate" of what is happening from publicly available information.

Factors affecting the amounts and origins of imported coal include international coal prices and their volatility, labour strikes, taxes on carbon, and blending and handling at port infrastructure. The doubling of the Carbon Price Floor in April 2015 - a tax on through-the-gate carbon arriving at power stations, rather than on smokestack emissions - led power stations to stockpile coal before this date, which was especially true for power stations set to close in 2016. This, on top of the fact that coal's contribution to electricity generation has continued to fall, has further skewed coal import figures for the past year, making it even more difficult to accurately estimate how power stations are sourcing their coal. Additionally, contracts between power stations, coal producers, and any commodity traders in-between will have different lengths, such that imports from short-term contracts could be halted while longer term contracts would remain in place.

CURRENT UK POWER STATIONS AND THEIR RESPECTIVE COAL SOURCES

ABERTHAW

Estimated average weekly coal arrivals: 35,000 tonnes
Main origins of coal by rail: South Wales opencasts
CAN sourcing estimate: 95% coal mined in South Wales

RWE npower (RWE) provides electricity, gas and energy services through a mixed portfolio of coal, oil, biomass and gas-fired power stations, producing more than 10% of the electricity used in the UK. [56]

RWE responded in part to the questionnaire, (Appendix III) replying that in 2013 the station fired 3.2Mte of coal and 100kte of biomass. It also stated that Aberthaw was designed to safely and efficiently utilise local, low volatile, semi-anthracite Welsh coal, and that the local mines provide a range of this type of coal. [57] RWE said that it blends coal on site and directly purchases coal from RWE Supply and Trading, of which more than 70% comes from Wales. [57]

In March 2015 the power station was emitting 1200mg/Nm^3 of nitrous oxide, more than twice the 500mg/Nm^3 limit set out in the Large Combustion Plant Directive (LCPD). For more details on the LCPD see page 83. Aberthaw had been given an exemption to the LCPD pollutant levels because the power station is designed to burn South Wales coal, seen as an important industry in the area. This coal is difficult to

light, so a chemical catalyst is used producing more nitrous oxide. [58]

The new limit on nitrous oxide under the Industrial Emission Directive (IED), coming into force in 2016, is 200mg/Nm^3. The UK Government has been lobbying the European Commission for a continuation of the exemption for Aberthaw, in order to keep the power station open. The European Commission argues the exemption is no longer needed as RWE is blending local coal with imported coal, particularly from Russia, increasing the average volatility of the coal, and thus the catalyst is not needed. [59] It is possible that the reason the UK Government is keen to keep the exemption at Aberthaw is to provide liquidity in the emissions trading under a Transitional National Plan (TNP) and enable other power stations to produce electricity without upgrading to reduce emissions. For more information on the TNP see page 84. If Aberthaw was given the exemption, but did not need it, it would allow a higher level of nitrous oxide across all power stations.

COTTAM AND WEST BURTON

Estimated average weekly coal arrivals Cottam: 53,000 tonnes
Main origins of coal by rail: Immingham, Port of Tyne and Northumberland opencast mines
CAN sourcing estimate: Russia 29%, Colombia 20%, USA 18%

Estimated average weekly coal arrivals West Burton: 9,000 tonnes
Main origins of coal by rail: Immingham
CAN sourcing estimate: Russia 33%, Colombia 32%, USA 16%

Both are coal-fired power stations owned by **EDF**. EDF has a mixed electricity generation portfolio, including nuclear, coal, gas and wind. [48] It chose not to answer our questionnaire. EDF claims to be "the UK's largest low-carbon generator." In 2014 the total amount of energy generated was down by 6% from the previous year, the amount of energy generated from coal was down 15%. [49]

EGGBOROUGH POWER STATION, YORKSHIRE. CAN

Cottam is currently receiving more coal than any other power station except for Drax, whereas West Burton is receiving very little coal and assumed to be running at very low capacity.

The EDF Group is also a coal trader through its EDF Trading arm. EDF states "*we have the reach and capacity to source from the most appropriate coal producing regions anywhere in the world.*" It has three coal terminals in Amsterdam where it stores and blends coal for ship reloading and inland distribution. [50]

EDF Trading exports millions of tonness from the USA, via Newport News and Baltimore Harbour, and is involved in transportation of coal from the Illinois, Powder River and Uinta coal basins. Issues surrounding coal coming from these places are discussed on pages 40-44. [51]

As a large international coal handling company, EDF should know where its coal is coming from. It states that it "believes that all harm is preventable so our aim is Zero Harm. That means […] taking positive action to ensure the public is not harmed by our operations." [52] This statement should be backed up via transparency in its supply chain, showing that it is not causing harm to communities in Russia nor Colombia. There is no publicly available information on the supply chain of coal to Cottam and West Burton.

DRAX

Estimated average weekly coal arrivals: 107,000 tonnes
Main origins of coal by rail: Immingham, Port of Tyne, Kellingley Colliery and Northumberland opencast mines
CAN sourcing estimate: Russia 25%, Colombia 10%, USA 20%

Drax power station is owned by **Drax Group Plc**, which is listed on the London Stock Exchange. It has the highest generating capacity of any power station in the UK, [32] and supplies 7-8% of the UK's electricity demand. [33]

Up until winter 2004, Drax was supplied exclusively by coal mined in the UK. This ended due to coal mine closures and in order to meet proposed environmental directives. [34] Currently, the power station has three coal units and two biomass units, with a third unit currently being converted to biomass. [35] Drax is currently receiving and burning far more coal than any other UK coal-fired power station.

Drax chose not to respond to CAN's questionnaire, saying that the information was commercially sensitive and referring to its involvement in Bettercoal. (For our analysis of Bettercoal see pages 95 & 96. Its annual report states "*In 2014, 38% of the coal we burnt came from UK deep and surface mines with the remainder coming from major supply basins around the world, including the US, Colombia and Russia.*" [36] In 2011 this included coal from the Kuzbass region of Russia. [37] Drax confirmed in March 2015 that about 18% of its coal is sourced from Colombia, including from the Cerrejón mine. [38]

Drax is burning biomass in two of its six units to ensure the whole power station conforms to air quality standards and to keep the company financially viable. Biomass is considered a renewable energy source allowing Drax to receive lucrative renewable electricity subsidies. In 2014 these were equivalent to 79% of its annual gross profits. [39] Drax also received a loan from the Green Investment Bank for its biomass conversion. Without burning biomass the coal-fired power station would likely have to close.

Campaign group Biofuelwatch has highlighted the damage done by burning biomass for electricity, and shows that biomass conversion simply replaces one highly damaging fuel with another.

Drax's burning of wood pellets to create electricity is problematic because:
• A significant proportion of Drax's biomass is sourced from biodiverse hardwood forests in the southern USA, where whole trees are being turned into pellets. This is creating dust pollution problems for surrounding communities.
• In 2014, with two biomass units, Drax burned over 4 million tonnes of pellets made from around 8 million tonnes of wood, which is far more than any other power station in the world.
• With three biomass units operating, Drax will be burning around 1.5 times as much wood as the UK produces in total every year.
• Burning biomass can produce up to 3 times more carbon emissions than equivalent generation from burning coal. [40]

DRAX POWER STATION. STEVE MORGAN/GREENPEACE

For more information on biomass burning at Drax see: **biofuelwatch.org.uk**.

Drax has been the focus of a large amount of public protest over the last ten years. In 2006 the first climate camp was held in Drax's shadow, with a week of action against unsustainable energy and the Government's plans to build six new coal-fired power stations. In 2008 the Camp for Climate Action massed around the existing Kingsnorth power station and the site of E.On's proposed new power station. Plans for the new power station were shelved in October 2009, and all of the other proposals followed suit due to civil society action and market pressures. The existing power station at Kingsnorth closed in December 2012. Since the withdrawal of Peel Energy's plans for a new power station at Hunterston in Scotland in June 2012, again because of large-scale public opposition to the plans, there has only been one new coal-fired power station application in the UK: the White Rose Project, adjacent to the existing Drax site.

White Rose Project

Drax Group Plc, Alstom and BOC make up Capture Power Ltd, a consortium aiming to build a new coal-fired power station. The developers claim that the power station will be able to capture 90% of the CO_2 released, via oxyfuel combustion carbon capture and storage (CCS) technology. In September 2015 Drax announced that, following completion of a DECC-funded feasibility study for the power station, it would withdraw from the project. [41] Without Drax's involvement the new power station is much less likely to go ahead.

The White Rose Project, if it goes ahead, will use the same supply chains for its fuel as the existing Drax power station. CCS requires more coal to be burned to produce the same amount of energy, as additional energy is required for the CCS process. If the power station were to be operated with CCS this would, therefore, increase the coal consumption, leading to greater impacts on communities living in the shadow of coal mining and the transport infrastructure. See page 88 for more details on CCS.

Developers are also using the rhetoric of "negative emissions" to promote the power station, as up to 15% biomass will be burned alongside coal, which is making it even more attractive to policy makers. However, even planning documentation for the power station shows clearly that the power station would increase emissions. Furthermore, claims of the carbon neutrality of biomass are based on flawed carbon accounting. [42]

EGGBOROUGH

Estimated average weekly coal arrivals: 5,000 tonnes
Main origins of coal by rail: Immingham
CAN sourcing estimate: Russia 38%, Colombia 37%, USA 19%

Eggborough is run by **Czech Energetický a Průmyslový Holding**, which has announced that the power station is likely to close at the end of March 2016. The plant has failed in its attempts to gain support from government to convert to biomass. The closure announcement comes after changes in the Capacity Market Rules, the Supplemental Balancing Reserve (for more information see page 86), commodity prices, and uncertainty regarding Eggborough's environmental permits under new IED constraints on emissions. [53]

Eggborough is receiving very little coal and is assumed to be running at very low capacity, as well as burning stockpiled coal.

FERRYBRIDGE AND FIDDLERS FERRY

Estimated average weekly coal arrivals Ferrybridge: 0-5,000 tonnes
Main origins of coal by rail: None, possibly Cottam power station
CAN sourcing estimate: None

Estimated average weekly coal arrivals Fiddlers Ferry: 13,000 tonnes
Main origins of coal by rail: Hunterston
CAN sourcing estimate: Russia 20%, Colombia 64%, USA 15%

Both power stations are owned by **SSE**. It was announced in May 2015 that Ferrybridge power station will close in March 2016. Both power stations are receiving very little coal, and assumed to be running at low capacities as well as burning stockpiled coal. SSE is an energy company that generates electricity through gas, oil, coal, biomass, hydro, wind and pumped storage. [54] SSE declined to complete our questionnaire, saying any information, other than that which was in the annual report, was commercially sensitive. The annual report (2015) does not say which countries supply the coal burnt in the company's power stations.

Ferrybridge power station did not run in summer 2015 and will only run at half capacity over winter 2015/16. SSE stated that the power station was forecast to lose £100m over the next 5 years, and that the political consensus is that coal has a limited role in the future, meaning that keeping the station open is not sustainable. [55] Neither of these reasons solely apply to Ferrybridge. The main difference between Ferrybridge and Fiddlers Ferry is that the latter was successful in the 2018/19 Capacity Market auction, although this only guarantees an income for one year, at three of the four units (see page 86).

KILROOT

Estimated average weekly coal arrivals: 0 tonnes
Main origins of coal by rail: None
CAN sourcing estimate: None

Kilroot power station is owned by **AES**, a company listed on the New York Stock Exchange. AES is a power company which works in 18 countries. [62] It is Northern Ireland's only coal-fired power station, co-firing with oil and biomass. Kilroot is counted in the UK Energy Statistics, but contributes to Ireland and Northern Island's combined grid.

AES did not respond to our questionnaire. Kilroot has received coal from Hunterston in the past, to its own jetty, but it is now believed that coal imported through Belfast is loaded onto smaller boats to be taken to Kilroot's jetty.

LONGANNET

Estimated average weekly coal arrivals: 38,000 tonnes
Main origins of coal by rail: Hunterston
CAN sourcing estimate: Russia 18%, Colombia 67%, USA 15%

Longannet is run by **Scottish Power**, owned by Iberdrola, a Spanish energy group. Operators have announced that the power station will close at the end of March 2016. It is the only coal-fired power station in Scotland and it has become uneconomic to operate. Scottish Power have blamed its closure on the charge for connection the national grid (up to £40 million a year) which is charged to all electricity suppliers, not just fossil fuel users. This charge has been in place since 2005. In March 2015 Longannet failed to win a "voltage

FERRYBRIDGE POWER STATION, YORKSHIRE. CAN

support contract", which would have given the power station financial support until the electricity network is updated. [43] Then in April 2015 the Carbon Price Floor was doubled. This further increased the costs of running the power station, which has not been operating at full capacity for five years. It currently operates at around 50% of its capacity. [44] The closure of Longannet means that the remaining coal mines in Scotland will either close, since they exclusively supply Longannet by road, or will have to transport coal far greater distances. Coal demand from Muir Dean opencast in Fife has already decreased since Longannet's closure was announced and stockpiling is taking place at the mine. [45] Scottish Power chose not to respond to our questionnaire.

LYNEMOUTH

Estimated average weekly coal arrivals: 0 tonnes
Main origins of coal by rail: None
CAN sourcing estimate: None

Lynemouth is also owned by **RWE** and run by Lynemouth Power Ltd. It was built to supply the adjacent Rio Tinto/Alcan aluminium smelter, but has supplied the National Grid after the smelter closed. The UK Government awarded RWE a lucrative subsidies contract for converting this power station to biomass, but the European Commission has opened a full investigation into this award, as it believes it may "hamper competition". [60] This has delayed the conversion to biomass. Operators claim that Lynemouth is operational currently, [61] but no coal is being delivered to the site by rail. However, it could be sourcing coal from near-by Northumberland opencast mines by road.

RATCLIFFE-ON-SOAR

Estimated average weekly coal arrivals: 23,000 tonnes
Main origins of coal by rail: Immingham and Hunterston
CAN sourcing estimate: Russia 24%, Colombia 25%, USA 12%

Ratcliffe on Soar is owned by **E.On**, and chose not to respond to our questionnaire. The power station has been receiving relatively little coal in recent months and

it is thought that it is running at a low generating capacity, as well as burning stockpiled coal. Ratcliffe has the most efficient air pollution controls of the UK power stations in relation to sulphur dioxide, nitrogen oxides and particulate emissions controlled under the IED, which ignores CO_2 emissions. Ratcliffe still releases 11.01 million tonnes per annum (Mt/a) of CO_2, resulting in it being the target of a number of protests. [46]

In April 2007 environmental activists locked themselves to conveyor belts on the site. Their intention was, "*to physically attempt to stop its operations and draw attention to the burning of fossil fuels' contribution to CO_2 emissions and thus its impact on climate change.*" In 2009 a mass action at Ratcliffe power station, to highlight its use of unsustainable fuel, was prevented by police who made pre-emptive arrests. Underhand policing tactics meant that although activists were sentenced in 2011, all of the charges were later dropped. Also in 2009, Ratcliffe was the focus of the Climate Swoop, where hundreds of environmental activists tried to enter the power station. [47]

RUGELEY

Estimated average weekly coal arrivals: 13,000 tonnes
Main origins of coal by rail: Immingham & Avonmouth
CAN sourcing estimate: Russia 47%, Colombia 27%, USA 20%

GDF Suez & Mitsui & Co dropped plans for converting Rugeley coal power station to biomass in November 2013, even though the owners had obtained planning permission for such a conversion. It has opted out of the IED Limited Life Degradation, meaning that it intends to either operate through the TNP, fit air pollution abatement technology, or close in 2016. Rugeley has not secured a Capacity Market payment, and is receiving very little coal. It is assumed to be running at low capacity.

USKMOUTH

Estimated average weekly coal arrivals: 0 tonnes
Main origins of coal by rail: None
CAN sourcing estimate: None

Uskmouth is run by Hong Kong based **SIMEC Group**. It has been offline frequently over recent years, and was only operating one of its three units at the time this report was published. The low volumes of coal being used have made tracing its origin impossible. The new owners wish to convert it to biomass and to develop the area around the power station for renewable energy. [63]

EUROPEAN DIRECTIVES AFFECTING COAL-FIRED POWER STATIONS

The European Union's Large Combustion Plant Directive (LCPD) was created to restrict emissions of key air pollutants which affect public health and produce acid rain. The LCPD limits emissions of sulphur dioxide (SO_2), nitrogen oxides (NO_x) and particulate emissions. It required all existing power stations to either opt out, and subsequently close within a specified number of operating hours after it came into affect in 2008, opt in and comply with regulations, or comply through the 'national plan', which enables trading in emissions.

"NO_x react with ammonia, moisture, and other compounds to form small particles. These small particles penetrate deeply into sensitive parts of the lungs and can cause or worsen respiratory disease, such as emphysema and bronchitis, and can aggravate existing heart disease, leading to increased hospital admissions and premature death." [64]

These controls have led to a number of UK and European power stations closing since its introduction, including Didcot and Kingsnorth. In 2011 the Industrial Emissions Directive (IED) came into force, rationalising several separate directives, including the LCPD. The IED requires industrial plants, including the UK's existing coal power stations, to reduce the same three forms of air pollution in order to meet more stringent emissions limits than under the LCPD. [65] Power stations can either: comply with the directive; not comply with the standards (known as Limited Life Degradation) and close within 17,500 operating hours after 1st January 2016, and no later than 31st December 2023; or participate in the 'Transitional National Plan' (TNP).

The TNP enables power stations to comply with new air quality standards by trading emissions with other power stations which have opted into the TNP. For example, Aberthaw might trade with Cottam, swapping nitrous oxide credits for sulphur credits. At present all

of the major power stations have opted into the TNP. The TNP directive allows power stations that participate to decide later whether to fully opt into the IED in 2020. [65]

Reducing emissions requires power stations to fit new equipment, some of which is very expensive. European Union air pollution controls will continue to become more stringent under the IED. As a result of the IED, the Capacity Market Mechanism and the Carbon Price Floor (see page 86) an increasing number of power stations will become unprofitable and decide to close or convert to biomass.

THE NATIONAL GRID

Electricity generated in power stations, and from renewable energy, feeds into the UK National Grid. This ensures that electricity is available when people need it. The grid is regulated to ensure that there is not a deficit in supply of electricity, nor high levels of excess. The UK is also connected to continental Europe and Ireland by interconnectors, which are designed to ensure a consistent supply, rather than to continually generate electricity in one country to be used in another. In 2014, 93% of electricity used in the UK was produced domestically. Electricity was both imported, via the interconnectors from France and the Netherlands, and exported to Ireland. [66]

ELECTRICITY GENERATION

Electricity generation accounted for 93% of demand for steam coal and 44% of demand for anthracite in 2014. However, coal's use in the energy mix is not constant. The use of coal for electricity generation by major power producers fell by 23% from 50 million tonnes in 2013 to 38 million tonnes in 2014, which was a new record low. Available data for coal use in the first and second quarters of 2015 mirrors this trend. This continued decline is due to a number of reasons including: outages at several power stations (i.e. power stations being taken offline); the temporary closure of Uskmouth and the partial closure of Ferrybridge C during 2014; a second unit at Drax being converted to biomass; lower demand for electricity overall; changes in the relative prices of coal and gas; and the doubling of the Carbon Price Floor. The price of coal purchased by major power producers fell by 7.8% in 2014, whereas the price of gas fell by 18%. [67] With the closures of three power stations due in March 2016, the proportion of electricity generation from coal will decrease further.

ELECTRICITY IN IRELAND

Ireland has a single electricity grid between the Republic of Ireland and Northern Ireland. Electricity generated in Northern Ireland's only power station burning coal, Kilroot, is therefore contributing electricity to the grid on the whole of the Irish mainland.

The Republic of Ireland has only one coal-fired power station, Moneypoint, Co. Clare. It has a capacity of 915MW, and can use oil as a backup if necessary. [68]

THE STEEL INDUSTRY

The supply chain for both steam and metallurgical coal have been included in the mining sections of this report. Metallurgical coal, while occasionally used in power stations, is normally used to manufacture coke, which is used in the steel industry. 10% of the coal imported to the UK in 2014 was used to manufacture coke. [12] Tracing imported metallurgical coal within the UK is outside of the remit of this report.

The steel industry in the UK is in decline because of surging imports, especially from China, and the appreciation of Sterling against the Euro affecting exports. [69] If the UK increasingly buys steel from abroad, it increases demand for coal for coking in other countries, which impacts points of extraction as much as producing it at home.

PART 3

GOVERNMENT POLICY ON COAL IN THE UK

There is a growing criticism of coal power at an international level, which is forcing power companies and governments to engage with pollution controls and phase-out plans. This is affecting direct policy decisions and indirect impacts from both government and industry.

INDIRECT SUBSIDIES

The Overseas Development Institute (ODI) calculated in November 2013 that the UK coal industry received support equivalent to £85 million from Government. The ODI's report, which looked at all fossil fuels, was based on data from the Organisation of Economic Cooperation and Development (OECD). It estimated how much financial benefit fossil fuel industries - from coal power generators to oil refineries - get from a range of government energy policies.

The OECD calls this 'support', rather than 'subsidy', defining support as any policy that provides a benefit or preference for fossil-fuel production or consumption, either in absolute terms or relative to other activities or products. Over 90% of the overall £4.3 billion for fossil fuel support is due to the reduced rate of VAT that domestic consumers pay for fuel and power. [70]

The International Monetary Fund (IMF)'s latest analysis estimates that the UK will spend about £18 billion in subsidies for coal in 2015. The bulk of this total is due to fiscal policies that do not address externalities, such as global warming and local air pollution, caused by burning coal. Some of this cost will be shared by consumers, but it will also help producers, the overwhelming majority of whom are based overseas. [71]

A PLEDGE TO PHASE OUT UNABATED COAL

In February 2015, David Cameron signed a pledge to phase-out unabated coal in the UK. [72] This would include all existing coal-fired power stations, unless they were to retrofit carbon capture and storage (CCS) technology. In November 2015, Amber Rudd, Secretary of State for Energy and Climate Change, announced a Government proposal to restrict the use of unabated coal from 2023, and phase it out completely by 2025, pending consultation and a number of conditions. So far this is only an intention, and there have been no legislative changes to enforce a phase out. [73] CAN does not believe that a phase out a decade from now is fast enough. Furthermore, until there is legislation in place to ensure that coal fired power stations close, there will be great uncertainty over the Government's commitment to fulfilling this promise, and therefore the possibility of a U-turn when the political context changes.

A few years ago, an Emissions Performance Standard was signed into law which prevents new, conventional coal-fired power stations from being built, by limiting emissions to around half of what is currently produced. This means that new coal-fired power stations must have some CCS capability, although co-firing with biomass could also be used to get around the emissions limits. [65]

PROJECTIONS

Current Department of Energy & Climate Change (DECC) projections predict that coal will no longer be part of the UK's fuel mix by 2027, in line with UK carbon targets. However, a modelling study run by Imperial College London, and funded by WWF, found coal generation in the UK would continue beyond 2030, even under its most optimistic scenario, and without the introduction of new legislation. Essentially, the model demonstrated that a market opportunity will still exist for coal beyond 2030. [74]

There are specific policy decisions which have been made recently that make a market for coal more likely beyond 2030. These include the freezing of the carbon price in the 2014 budget, allowing coal plants to bid in the capacity market, and failure to extend the Emissions Performance Standard to existing coal plants.

CARBON PRICE FLOOR

The UK Government introduced the Carbon Price Floor (CPF), a tax on carbon dioxide emissions, due to the failure of the EU Emissions Trading System to provide a sufficiently strong and stable signal to encourage investment in low-carbon technologies. The CPF was set to provide greater forward clarity on carbon prices, with the level set to increase annually to 2030. However, within two years of it being introduced, the CPF was frozen at its planned 2016 level until 2020. [75]

As the Carbon Price Floor directly targets greenhouse gas emissions, by freezing it the UK Government is sending a strong message that it is no longer committed to tackling climate change. [76]

The Imperial researchers' modelling showed the role of coal to be highly sensitive to carbon prices. It was more sensitive than any other form of electricity generation, given that it is the most carbon intensive fossil fuel. The study concluded that the carbon price was currently the policy with most influence on whether coal would still have a role by 2030 or not. [74]

EMISSIONS PERFORMANCE STANDARD

The Emissions Performance Standard (EPS) has been introduced to limit CO_2 emissions from new power stations. aiming to rule out the construction of new unabated coal plants in the UK.

CAPACITY MARKET

The Capacity Market provides payments to coal and gas generators to ensure they stay online and can deliver power when required. With an increasing amount of renewable energy on the grid, which tends not to provide electricity consistently, the Government devised the Capacity Market as a way to 'keep the lights on'. The capacity market allows generators to bid to secure the UK's energy supply at times of peak demand. Auctions are held four years ahead of the year in which capacity is expected to be delivered. The first delivery period will start in the winter of 2018-19, which was decided at the first Capacity Market auction in December 2014.

Originally it was conceived as a way of supporting the building of new gas plants. Of the £1 billion of payments already committed, just 5% is set to go to new gas generation. [75 & 77] Far more support has been given to existing coal-fired power stations. A fifth of the contracts already awarded will go to polluting coal power stations. This amounts to £173 million in support for coal from October 2018 to September 2019. It is likely that the 2015 auction – to be announced in December 2015 for October 2019 to September 2020 – will result in similar levels of support for coal plants. [78]

The Capacity Market has been skewed in favour of supporting fossil fuels. Only 0.4% of the budget is going towards demand-side response schemes. Demand side responses include managing electricity use and cutting peak electricity demand. The scheme only offers short one year contracts to demand-side response participants. Power plants that carry out retrofits to stay open can claim three year contracts, while new-build plants can claim 15 year deals. There is currently an ongoing legal challenge against the Capacity Market by Tempus Energy, a firm that aims to cut consumer energy bills by helping them use cheaper, off-peak power, arguing that the Capacity Market is offering illegal subsidies which unfairly favour generators over demand-side response schemes. [79]

As the Capacity Market scheme will not come into effect until 2018, the National Grid launched two new balancing service products for the 2014/15 and 2015/16 winter periods. Demand Side Balancing Reserve (DSBR) and Supplemental Balancing Reserve (SBR) were developed in response to predictions from Ofgem that electricity capacity in the UK would be under significant pressure during these periods, due to

decreasing generation capacity and uncertainty about future demand. [80]

DSBR will pay large energy users to reduce their demand by an agreed amount during evenings between November and February, when National Grid suspects demand will be significantly outstripped by supply. SBR will pay for moth-balled or would-be closed generating plants to remain available over the winter periods to provide back-up power in the event of a spike in demand or the loss of a generating unit. [81]

INCONSISTENCIES IN FAVOUR OF COAL

The UK Government has repeatedly argued against the application of the EPS to existing power stations that are investing in technology upgrades to meet emissions requirements, on the basis that this would amount to retrospective regulation. Yet already existing generators undertaking upgrades in order to bid in the Capacity Market can claim retrospectively for upgrade work carried out since May 2012, if they can show that it forms part of a larger package of improvements. This further demonstrates the inconsistencies between different policies regulating the energy market, and how existing coal plants are being given preferential treatment. [75]

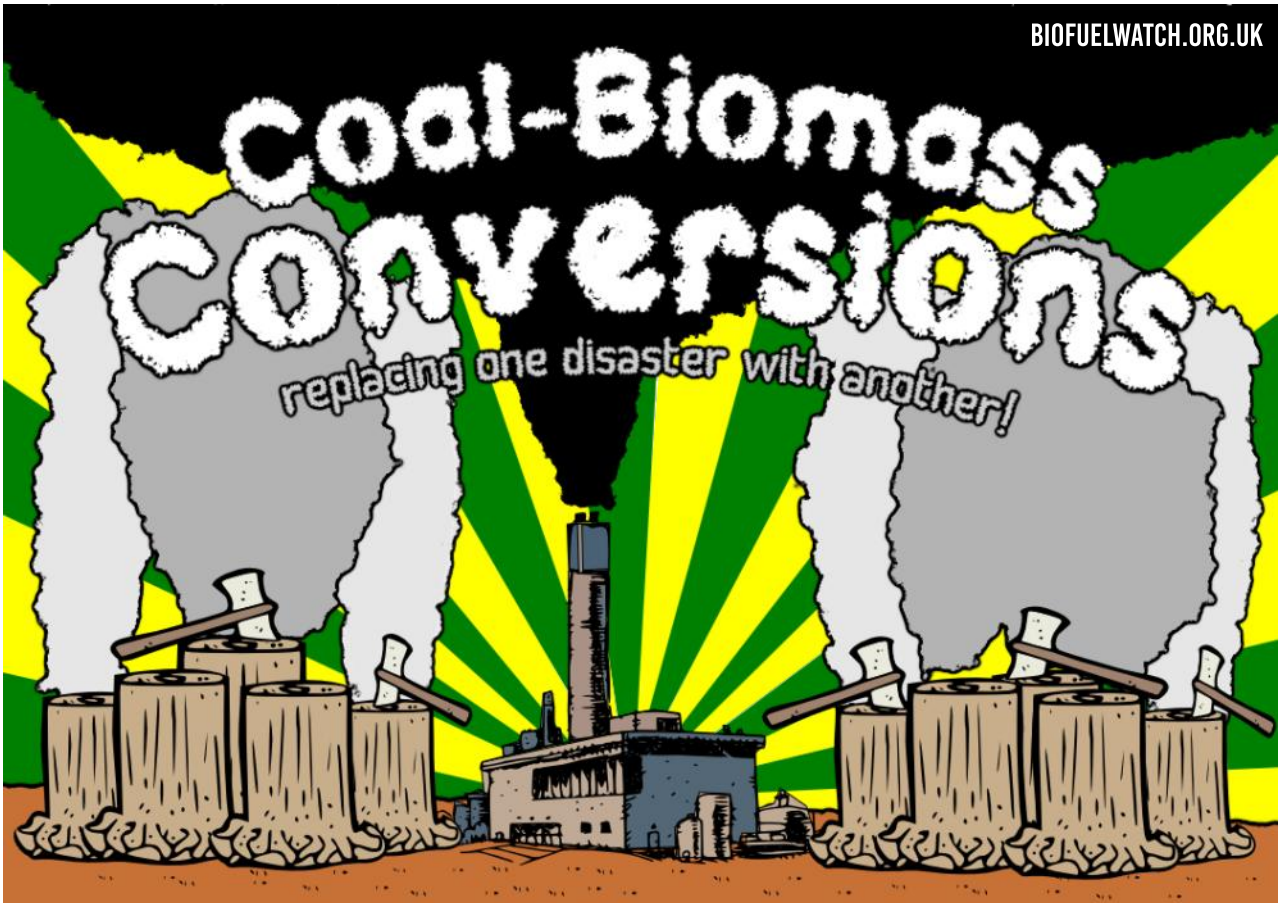
WORST CASE SCENARIO AVOIDED?

Fortunately, following criticism from Greenpeace, E3G, and other groups, the Government announced last year that upgraded old plants would not be able to bid for 15 year Capacity Market contracts. However, the Government is still offering ageing coal plants other subsidies worth hundreds of millions, putting our climate ambition at risk and locking us into more years of dependence on coal. [79]

BIOMASS SUBSIDIES

Coal-fired power stations can receive 'renewable energy subsidies' for co-firing coal with biomass, or for converting coal units to run solely on biomass. Drax, the UK's largest coal-fired power station, received an estimated £358.5 million in renewable energy subsidies in 2014, and can expect up to £637 million once 50% of its units have converted to biomass. [82] Aberthaw, Cottam, Ferrybridge and Fiddlers Ferry have also received payments for biomass co-firing in recent years. [83]

In addition, other power stations, such as Tilbury B (now closed) and Ironbridge, have used biomass conversions as a way to stay open for longer. Lynemouth, Uskmouth, Rugeley, and Eggborough power stations have all looked to convert entirely to biomass, although as mentioned above Eggborough has announced that it is likely to close in March 2016 instead. Lynemouth has planning permission to convert, and has been awarded a subsidy contract for this, but this contract is currently being investigated by the



COULD CARBON CAPTURE AND STORAGE (CCS) SOLVE THE PROBLEM?

If coal is seen exclusively as a problem in terms of its impacts on climate change, then CCS could appear to offer a solution. CCS supporters claim that this technology can capture most of the CO_2 released by power stations, and that it can then be sequestered underground indefinitely. The consortium proposing the White Rose project (discussed on pages 80 & 81) hope to be able to capture 90% of the carbon dioxide the power station would produce. However, it would still release a significant amount of carbon emissions to the atmosphere. More importantly for this report, the energy required to operate CCS is substantially greater than for a conventional power station, meaning that more fuel is required. Therefore, any power station with CCS would actually have greater impacts on communities affected by coal.

The impacts that the mining and transportation of coal have on communities mean that CCS is not a viable solution to the problems caused by coal burning. On the contrary, it would exacerbate the impacts described in this report. Indeed, to advocate for CCS implies that the production of electricity through the consumption of coal is more important than the lives of people affected by coal extraction.

There are many other arguments against CCS but when considering local communities it is a false start. Other criticisms are outside of the scope of the report, but are covered in Corporate Watch's factsheet on CCS, which is available at **https://corporatewatch.org/resources/2014/carbon-capture-and-storage-factsheet**.

The UK Government is supporting efforts to develop CCS by offering financial support of over £1 billion. In addition to the White Rose Project, the Peterhead CCS Project - an existing combined cycle gas turbine - is looking to retrofit CCS technology. [85]

European Commission.

Conversion to biomass and the subsequent subsidies generated may yet enable more of these power stations to remain operational for longer and avoid closure. This is certainly the case for Drax, where its 50% conversion is allowing its remaining coal capacity to remain in operation for far longer than otherwise. [84]

JOBS IN THE COAL INDUSTRY COMPARED TO THE RENEWABLE INDUSTRY

The most frequently cited reason to keep burning coal is jobs. The 1984-1985 miners' strike in the UK made coal jobs an important political issue. However, the current Conservative Government's focus on jobs is an attempt to gain support from mining communities which historically vote Labour. The Conservatives are not concerned about absolute numbers of jobs, as they have recently announced cuts to the renewable industry, bringing far greater job losses than closing all the coal-fired power stations would.

In September 2015 there were 2,168 people employed in coal mines, a number which is set to decrease (see page 54). There are 3,254 employed in coal power stations, making a total of 5,422 direct employees. [86] By comparison, 34,000 people had wind, wave and tidal energy to thank for their employment in June 2015. [87]

Sadly the Government's short sighted energy policy has slashed that number. In Northern Ireland alone more than 5,000 people will be made unemployed as a result. [88] The Government appears to only be concerned with coal-related jobs when it suits them, rather than considering long term impacts or jobs across all sectors.

UK FUNDING OF COAL ABROAD

The UK announced in November 2013 that it had agreed to end its support for public financing of new coal-fired power plants overseas, except in rare circumstances in which the poorest countries have no feasible alternative. The UK provided about £300 million for such projects in the seven years preceding 2013, mostly through its funding for development banks, according to research by the US Natural Resources Defence Council. [89]

EXPORT CREDIT GUARANTEES

The UK Government currently still supports the coal industry overseas through the underwriting of coal industry sales abroad by way of export credit guarantees. These insure exports, such as mining equipment and coal-fired power plant machinery, against non-payment by foreign customers. In 2012-13 the UK government gave over £53 million in support to the coal mining sector in the form of these guarantees,

THE BEHAVIOUR OF UK MINING COMPANIES ABROAD

The impacts the UK has on coal mining stretches beyond those associated with feeding power stations at home. Most of the world's biggest mining companies, and many smaller mining companies, are listed on the London Stock Exchange (LSE), on both main market and the Alternative Investment Market (AIM).

There are 17 companies involved in coal mining listed on the London Stock Exchange main market and 18 listed on the Alternative Investment Market (See Appendix X).

Carbon Tracker estimates that coal reserves equivalent to 44.56 gigatonnes of CO_2 are held by companies listed on the LSE. This is equivalent to 400 years of emissions from the UK's own power stations. Given the necessity of keeping the global temperature rise well below two degrees, only a fraction of this coal can be exploited. [31]

LONDON STOCK EXCHANGE MAIN MARKET REGULATIONS

The main market regulations are primarily concerned with financial regulation; the only reference to wider obligations is through corporate governance. [91] International primary listed issuers must disclose whether or not they comply with the corporate governance regime of their country of incorporation and provide a statement of differences. LSE listed companies are not required to comply with the regime in the country of incorporation and there is certainly no suggestion that companies have to comply with UK standards. [92]

ALTERNATIVE INVESTMENT MARKET REGULATIONS

Companies listed on AIM need to comply with any relevant national law and regulations in the country in which they are operating, as well as certain European Commission Directive standards where applicable, such as the Disclosure and Transparency Rules and the Prospectus Rules. As with the main market, these refer to financial regulation and governance, and not human rights and environmental protection. [93]

There does not appear to be any requirement for companies listed on either market to adhere to UK standards when operating abroad in terms of local communities and the environment.

This report uses three case studies of LSE-listed companies and their involvement in coal mining abroad, in order to highlight some of the problems they are causing. There are many other similar examples.

RESISTANCE TO COAL MINING IN INDONESIA. FOE INDONESIA

CASE STUDY 1: BHP BILLITON, INDONESIA

By Andrew Hickman

BHP Billiton is the world's largest mining company and amongst the world's largest producers of major commodities. [94] An Anglo-Australian company listed on the LSE main market, it produces roughly equal amounts of metallurgical and steam coal, as well as iron ore, copper, and uranium, and has substantial interests in conventional and unconventional oil and gas. [95] BHP Billiton's working practices have generated a lot of criticism in recent years, including but not limited to, those in Cerrejón, outlined in pages 23-36.

BHP Billiton's 2015 annual report reveals that the company has 16 billion tonnes of coal tucked away in projects in Colombia, Australia, South Africa, USA and the forests of Indonesia, making the company's coal stockpile one of the world's largest unexploded 'carbon bombs.' [96]

BHP Billiton's Indomet project in Central Kalimantan is one of the biggest coal concessions in Indonesia covering 350,000 hectares - which is twice the size of Greater London - totalling almost a billion tonnes of coal. [96] The project overlaps with the Heart of Borneo conservation area and most of the area consists of primary or secondary rainforest. BHP Billiton has claimed that it is intending to proceed slowly to ensure that the least harm is done to biodiversity and local and indigenous community life. More likely, the company knows that this project is highly contentious and wants to proceed without the glare of too much publicity. [97]

The significance of this project cannot be overrated. The rainforests of Borneo have been referred to as the 'Lungs of South-East Asia' and the Indomet project area lies deep within the least disturbed parts of this rainforest. [98] Most of the rest of Kalimantan's vital forests have already been destroyed by logging, palm oil production or coal mining. Communities that live in the area rely on the forest and its rivers for their livelihoods, and the main centres of population in Kalimantan live along the rivers that flow from these rainforests. [99]

BHP Billiton, with its Indonesian partner Adaro, continue to quietly develop the infrastructure to exploit the metallurgical coal that lies under this rainforest. A new railway is now on the verge of being built to enable coal extraction. As yet, the project has not become fully operational. There is a small window of opportunity to halt this ecological destruction before all is lost. [100]

Smaller scale coal mining operations have already begun in the area and locals point to pollution of the waterways and loss of livelihoods through land-grabbing by these companies. BHP Billiton's own record in securing the land around the village of Maruwai is clouded in accusations of coercion and unfair practice. Villagers were paid 100 rupiah per square metre for areas of their customary land, the equivalent of half a UK penny per square metre, in compensation. [101]

Maruwai villagers tell stories of how dissenting voices were intimidated, roughly treated and imprisoned in this land acquisition process. BHP Billiton's own commitment to the principle of establishing 'free, prior, and informed consent' appears to have been circumvented. [102]

Yesmaida, the wife of the village head in Maruwai has spoken out saying, "*We signed the agreement about the land with BHP, but honestly didn't understand. The compensation was 1 million rupiah per hectare of land. The communities didn't agree this price and there was no process of negotiation [...] we don't want BHP to operate along the Beriwit river.*" [103]

Not only will Borneo's forests and indigenous livelihoods be wrecked, but communities downstream will pay the price of polluted rivers and flooding by large-scale industrialised open-cast mining, with its knock-on impacts of land scarcity, food insecurity and climate disruption. Additionally the forests, and the peat land beneath, that currently operate as carbon sinks would be destroyed. The capacity of these natural 'lungs' to absorb the carbon dioxide in our atmosphere will be lost too. The Indomet project is a clear test in the battle to face up to climate change. BHP Billiton, its shareholders, and customers have a unique opportunity to lead the world away from this extreme coal mining by finding a radically alternative outcome for this project.

CASE STUDY 2: BERAU COAL, INDONESIA

By Andrew Hickman

The history of this mining operation, and the companies associated with it, are mired in reports of environmental and community destruction, malpractice, mismanagement, corruption, and human rights violations. Specific and accurate information about PT Berau's mines is hard to come by, given its location in the very north of the province of East Kalimantan, which is remote even by Indonesian standards. Consequently, information flow is controlled by structures that are closely tied to the business interests and power politics of the local elite. This picture is a common one in Kalimantan, particularly around the coal mining that is taking place there.

PT Berau Coal is currently 85% owned by Asia Coal Energy (ACE) Ventures, incorporated offshore in the British Virgin Islands. ACE acquired Berau from London listed Asia Resource Minerals Plc (ARMS), formerly known as Bumi Plc, in August 2015. [104] Berau's coal mining operation was previously owned by the notorious Bakrie business group. [105] Berau's coal mines, together with part of Indonesia's largest coal mining company PT Bumi Resources, were listed on the LSE through a business deal between the Bakrie family and Nat Rothschild in 2010.

Through a complicated and now outlawed transaction, Nat Rothschild and his financial backers struck a deal with the Bakrie family to bring these Indonesian coal mining interests to London. This 'reverse takeover' deal by-passed due diligence and normal scrutiny procedures for listing a new company on the LSE by setting up a 'shell' company and then 'reversing in' these Indonesian mining companies. [106] Listings rules were subsequently changed by the FCA, partly as a consequence of what happened in the creation of Bumi Plc.

The Financial Conduct Authority (FCA) recently fined Bumi £4.65 million for having inadequate controls to comply with its obligations and breaching various rules applicable to listed companies. It was the third biggest fine in the history of UK listings fines. [107] The company is heavily indebted and continues to face loan defaults with its creditors. It is still trying to recoup the US$173 million that a former CEO misappropriated. [108]

During these last years, Bumi has become a by-word for all that was wrong with the LSE. Following the public scandal provoked by Bumi, and other similar mining companies listed on the LSE, the Business Select Committee launched an inquiry into the extractive industries. [109] The inquiry's recommendations called for greater accountability for mining companies listed on the LSE. [110] However, these recommendations have yet to be implemented by the Government.

The London Mining Network (LMN), who campaign on issues surrounding mining by companies listed on the LSE or financed from London, have made their own recommendations for regulation of the mining industry. The LMN have called for social and environmental impacts to be taken into account when listing companies on the LSE. [111]

While the businessmen, financiers and authorities fought over the company in London, Nasrullah Bin Harun, a food salesman, died on 22nd June 2015 after being wedged between a coal tug boat and a pontoon owned and operated by PT Berau Coal. An angry crowd subsequently blockaded, stopping the company's coal conveyor belt servicing Berau Coal's Lati mine. [112] This is the real consequence of Berau's coal mining operations.

In the last few years there have been at least three major pollution incidents at Berau, including the spilling of 2,000 tonnes of ammonium nitrate into the Berau river in 2012. [113] In this same period of time, and against a backdrop of community discontent, PT Berau has been relocating three communities for mine expansion, affecting around 100 households. [114]

Mines in Indonesia, such as the Berau mine, are often located in seemingly lawless regions where the State is not the primary governing force, and what little law exists is controlled by thugs and armed groups linked to corrupt politicians and big business. Certainly, civil society activists talk about a climate of fear around the Berau mine. [115]

Today, the Berau mine, one of the largest coal mines in Indonesia, continues its operations, displacing communities, polluting rivers and causing death. London listed Asia Resource Minerals recently sold Berau to Asia Coal Energy Ventures, the Sinar Mas group and the Widjaja family, with no apparent regard for the consequences and the ongoing legacy involved in this sale.

In Indonesia, there is a much used acronym to describe the legacy of the Suharto years of business autocracy and dictatorship: 'KKN' (Korupsi, Kolusi, and Nepotisme) - corruption, collusion, and nepotism. Before listing in London, the reputation of Berau's original owners, the Bakrie family, was well known to all, even prior to Nat Rothschild's deal to establish Bumi Plc. [116] Similarly, by being subsumed into the Sinar Mas conglomerate and owned by the Widjaja family, the Berau coal mine seems fated to continue this terrible legacy, aided and abetted by UK offshore financing. [117]

What value does the concept of 'corporate social responsibility' have? If the public and affected communities are to believe in the business community's corporate social responsibility rhetoric, surely there needs to be accountability for the impacts on real people's lives and their environment by companies like the ones that continue to mine coal in Kalimantan?

CASE STUDY 3: GCM RESOURCES, PHULBARI, NORTH WEST BANGLADESH

Residents of the Bangladeshi town of Phulbari are united in their resistance to a UK company's desire to create a 572 million tonne coal mine, which would destroy their entire town. [118] The application from AIM listed GCM Resources is in a key rice producing area, part of the 'food basket of Bangladesh.' [119]

The mine would displace a massive number of people. GCM estimates that 40,000 people, including 2,300 indigenous people, live within the planned mine footprint and would need to be progressively resettled as the mine develops. [120] Campaigners against the mine estimate that the number of people living in the proposed mine area actually number some 50,000. At present 80% of the area is open fields and is used for agriculture. [121] The impacts will likely be greater as effects on water are estimated to impact 220,000 people in the area, as the water table is reduced by 15-25 meters. [122]

Local people are adamant that they will not be displaced and the land that they depend on will not be

destroyed. To demonstrate this an estimated 70,000 people protested against the project on the 26th August 2006. Paramilitaries opened fire on the peaceful demonstration, and three people were shot dead, while 120 were injured. [123]

In 2012 an Organisation for the Economic and Co-operative Development (OECD) Guidelines for Multinational Enterprises complaint was submitted by the International Accountability Project and Global Justice Now. The basis of the complaint was that the mine "*would breach OECD Guidelines for Multinational Enterprises by violating the human rights of the people who would be forcibly displaced and impoverished by the project*." [124] The OECD's National Contact Point decided not to look further into the case, but recommended that the company update its plans and produce a human rights impact assessment for the project, neither of which have yet happened. [125]

The exporting of the coal would threaten the Sundarbans - one of the world's largest remaining mangrove forests and a United Nations Educational, Scientific and Cultural Organisation (UNESCO) World Heritage site - as the proposed waterways would need to be dredged for cargo.

"*Eight million tonnes of coal would be exported by rail and barges through the Sundarbans, one of the three largest mangrove forests in the world which is also an international Biosphere Reserve by UNESCO.*" [126]

In 2014 the Bangladeshi Government agreed that the company could export all of the coal. [127]

The local people continue to resist the mine. In August 2015 Bangladesh's State Minister for Power, Energy and Mineral Resources, Nasrul Hamid, said that the Government was not interested in extracting coal from the deposits in the north Bengal region using open-pit methods. "*We have decided not to extract coal right now […] We must consider high density of population and the agro-based economy of the mining area.*" [128]

Similar stories to the three examples outlined above can be found in relation to many of the LSE listed coal mining companies. The UK Government needs to meaningfully regulate businesses registered here to stop causing such human and environmental crimes in other countries.

PROTEST AT GCM RESOURCES IN LONDON. GLOBAL JUSTICE NOW

TRANSPARENCY CONCERNS

CAN has used all publicly available sources of information to attempt to uncover the supply chain of coal that is burned in power stations in the UK. However, it has not been possible to follow coal from a specific mine to the power station that consumes it, in an unambiguous line. Instead, CAN has described the supply chains of coal mined in the four main suppliers of coal to the UK – Russia, Colombia, the USA, and UK domestic production – and used customs data, ship tracking methods, and freight train data, along with a number of assumptions and generalisations, to piece together the clearest possible picture of the movement of coal from point of extraction to combustion.

The results of this investigation are by no means complete, but in the absence of full disclosure and transparency from power station operators, this serves as the clearest account of the impacts of coal burned in the UK. The supply of coal is complex and involves many different actors, with inconsistencies in what little information is made publicly available. On top of this, there is no way to link coal leaving a particular port of origin, with coal arriving at a UK port (see Appendix V).

In the case of Colombia, it cannot be done without physically tracking the ship. In the example of the USA, the Energy Information Administration statistics name the ports exporting to the UK as a whole and give quantities of coal leaving each port, but HMRC trade data only indicates the country of origin for coal arriving to UK ports, but not port of origin. Because of this it is almost impossible to follow coal from port of origin to port of arrival. Added to this is the fact that ships carrying coal do not necessarily know their final destination when they leave port. In monitoring shipping movements as part of the data collection for this report, it was noted that ship destinations would change over the course of the journey, giving the impression that commodity traders were negotiating the coal sale as the ships travelled to Europe.

Coal ships may also stop at intermediate ports before reaching the place where the coal is ultimately used. This can include intentional stops - where coal is unloaded from larger vessels on to smaller ones, as happens at the ARA Port (Antwerp, Rotterdam, and Antwerp) - but may also include the stockpiling of coal in port, so that it can be sold on at a later date when it makes more financial sense. This has been documented by Urgewald, a German NGO that has looked extensively into the supply chain for German coal-fired power stations. [129]

Inconsistencies and errors in reported information also obscure supply chains. For example, the supposed export of coal from Colombia to the Falkland Islands, instead of the UK, is clearly wrong, and could even suggest some level of tax evasion, as the Falkland Islands are a known tax haven.

Similarly, HMRC lists Sri Lanka as the fourth largest exporter of coal to the UK, through Greenock ports (Hunterston is the only coal port amongst the ports listed as “Greenock” by HMRC). Clyde Maritime keeps track of shipping movements through ports on the Clyde, including Hunterston. However, it lists no coal ship arrivals from Sri Lanka. [130] Furthermore, Sri Lanka does not mine coal. HMRC has so far been unable to provide a suitable explanation for this, and DECC has also confirmed that “The UK does not import coal from Sri Lanka”. [131] Therefore, for the purposes of this report, it has been assumed that this coal is actually from Colombia. This is a fair assumption as Clyde Maritime records a significantly larger number of coal ships arriving at Hunterston from Colombia than either Russia or the USA, amounting to a substantially larger volume of coal from Colombia than has been reported by HMRC. The explanation for this substantial error in accounting on the part of HMRC could be as

POWER STATION AND PYLONS, UK. CAN

innocent as “Colombia” being wrongly recorded as “Colombo”, Sri Lanka's capital. Nonetheless it highlights how not even Government data can be relied on for an accurate account of the UK's coal sourcing.

Factors such as these complicate the supply chain substantially, and it is possible that with so many actors not even the power station operators themselves know the exact point of extraction of the coal they burn.

EVADING TRANSPARENCY: BETTERCOAL

Bettercoal, formerly the Better Coal Initiative, is an international, not-for-profit initiative established in 2011 by a group of major European electricity companies to promote the continuous improvement of corporate responsibility in the coal supply chain, with a specific focus on the mines themselves.

The Bettercoal Code, which member companies sign up to, has been developed in consultation with NGOs, civil society and coal suppliers, and forms the basis for both self and third party assessments of coal mining sites. The code covers ethical, social and environmental business principles and practices. Many of the code's clauses merely require that mines comply with local and international laws, meet industry standards and regulations, and globally agreed requirements, rather than creating new, higher standards.

Although the organisation engages with stakeholders, it does not have a genuine multi-stakeholder governance structure, only businesses involved in the coal industry can be ‘regular members’. Other organisations can have associate membership, but with no voting rights. Bettercoal's current Civil Society Panel is made up of European environmental and human rights groups with no representation from those directly impacted by coal mining, such as communities in Colombia, Indonesia, Russia and South Africa. There is no guarantee of independence and equal representation for all stakeholders.

The Bettercoal Code does not require individual member companies to provide transparency on the

mines from which they source their coal, nor on their business partners in the supply chain.

The audits Bettercoal plans to conduct on conditions at and around coal mines will then be discussed with Bettercoal's stakeholder advisory board, which is bound by a confidentiality agreement. Yet the specific audit results will not be made public. Only country-level information will be published. This does not provide consumers with the information needed to make a responsible choice of electricity provider, nor policy makers or others with the information needed to address the adverse impacts of coal sourcing. There are no binding commitments on the part of the companies to act upon any issues found during the audits or recommendations made by the auditors.

These structural shortcomings will limit Bettercoal's ability to affect real improvements at coal mines, and cast doubt on the commitment of its members to genuinely address the adverse impacts in the supply chain. Dutch campaign group SOMO has produced two reports linking companies that participate in the Bettercoal initiative to human rights abuses at the Prodecco, Drummond and Cerrejón mines in Colombia, and shows that Bettercoal has not improved the situation for communities on the ground. [132]

Bettercoal purports to be about transparency, but there appears to be little in the initiative itself. It is a mechanism for the industry to give the appearance of self-regulation, rather than an attempt to create any meaningful transparency in the supply chain. Power stations are using it as a cover to avoid having to engage with questions about their supply chain, as seen in Drax's response to CAN's questionnaire. Consequently, Bettercoal actually acts to obscure the impacts of coal mining, providing member groups with a convenient and suitably opaque alternative to full disclosure of their coal sourcing.

FULL TRANSPARENCY WOULD HELP, BUT IT IS NOT ENOUGH

Complete transparency along the coal supply chain is no guarantee that substantial improvements will follow. Transparency in sourcing can put pressure on companies to respond to criticisms, but more often than not, they do so by adopting a corporate social responsibility (CSR) framework. Examples of this include adopting non-legally binding codes of conduct, or spending money on philanthropic social projects, rather than directly addressing the community concerns. CSR has been strongly criticised by grassroots organisations across the globe, as it tips the power relations between corporations and social movements further to the advantage of corporations.
[133, 134, & 135]

However, transparency in the supply chain could bring some benefits. For example, over the last 10 years, civil society groups have identified some of the power stations sourcing coal from Cerrejón, such as Drax in the UK. [136] This information has been used in a number of ways: to push for boycotts of Colombian coal; as a mechanism for initiating solidarity campaigns; and as a pressure point to try to force Cerrejón to adequately resettle communities. Establishing this direct link between mines internationally and power stations has strengthened campaigns, and created a stronger platform from which to support impacted communities.

Essentially companies have a profit seeking imperative and are not accountable for their actions, other than to their shareholders. Building support for an issue through shareholder engagement has been one campaign tactic used to try to change companies actions, and has served as a mechanism for increasing the level of public scrutiny.

In making supply chains more transparent, the burden of proof should be on energy companies to prove that their sourcing is not causing harm. For example, the supply chain in Russia is so complex and lacking in information - in either Russian or English - that it is extremely difficult to link the actions of coal mining companies to any specific power station. Unless energy companies can resolutely prove that they are not sourcing coal from areas where human and environmental impacts have been identified, they must share responsibility for these impacts.

DIVESTMENT

One positive response to the problems associated with coal mining has been the growth of the divestment movement. There are currently a number of divestment campaigns targeting the fossil fuel industry, and coal in particular. These campaigns are working to get banks and organisations with big investments in fossil fuels to sell their shares. The divestment movement is growing with campaigns across the world. This report focusses on divestment campaigns in the UK.

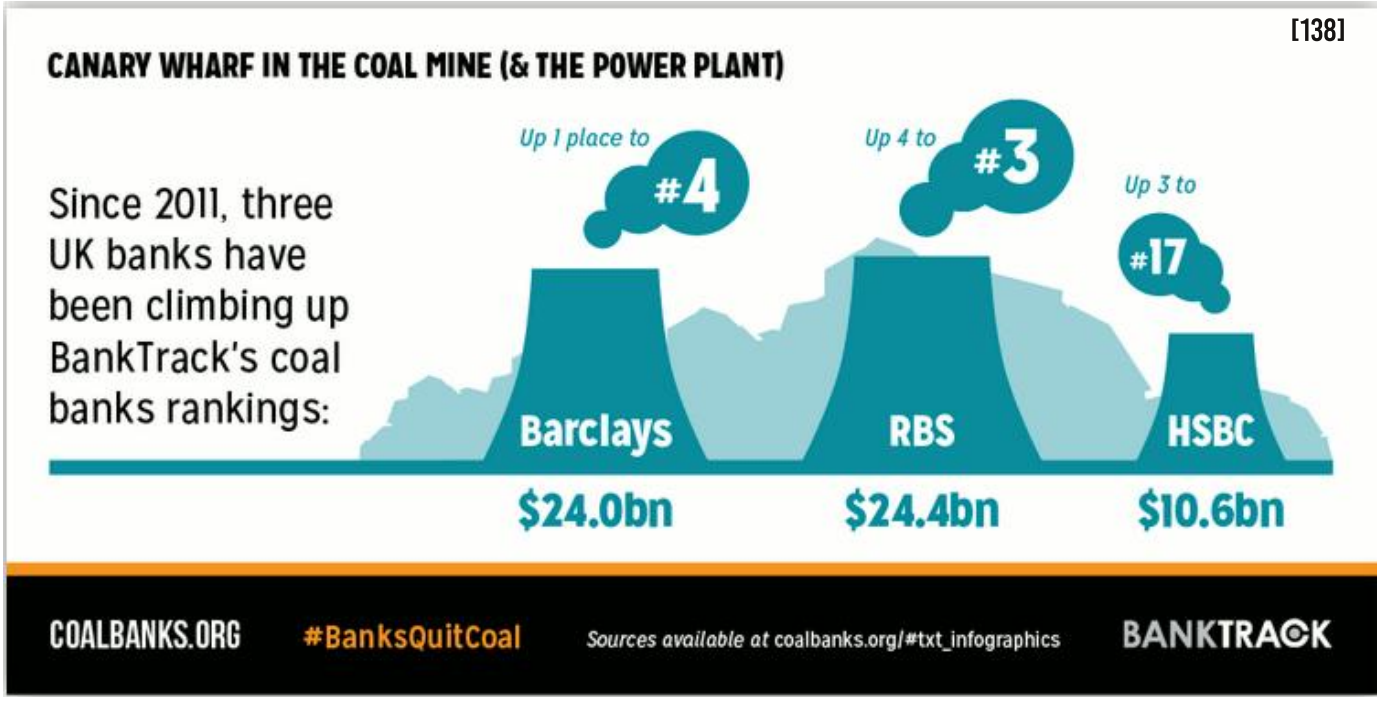
BankTrack's Coal Banks campaign is targeting the 'top 20 coal banks' which provided most financing to the coal industry - both coal mining and coal power companies - over the period April 2005 to April 2014. Of the top 20 banks for coal investments three are UK based - RBS, Barclays, and HSBC.

The campaign is calling upon all banks to publicly pledge to phase out finance for the coal industry, and to do so before the forthcoming 2015 Paris Climate Summit, where a new International Climate Agreement will be attempted to be concluded.

DIVESTMENT CAMPAIGNS

In the UK there are a number of campaigns and alliances focussing on divestment. **Fossil Free UK** is an alliance targeting public organisations. Campaigns are asking institutions to: immediately freeze any new investment in fossil fuel companies; divest from direct ownership and any commingled funds that include fossil fuel public equities and corporate bonds within five years. Most campaigns use a list of the top 200 fossil fuel companies, measured by reserves, with a top 100 for coal and a separate top 100 for oil and gas. The list is available here: **http://fossilfreeindexes.com/**. They have recently launched an interactive map showing the combined £40 billion of investment in fossil fuels of 40 local authorities.

[138]



Acting within Fossil Free UK are **350.org**, **People and Planet**, **Operation Noah**, **Medact** and **Healthy Planet UK** focussing on different public institutions including, churches, academic institutions, major health organisations and local councils. [139]

Move Your Money's national campaign aims to get individuals to put pressure on their banks through their 'Divest!' campaign to tell the big five banks to get our money out of fossil fuels. 'Either they divest, or we will!' The biggest five banks in the UK are also the biggest five investors in fossil fuels: HSBC, Barclays, Lloyds, RBS and Santander. If supporters currently bank with one of the 'big 5' Move Your Money is asking them to email their bank pledging to move their money if the banks fail to get out of fossil fuels.

The Guardian's **Keep it in the ground** campaign is calling on two of the world's biggest charitable funds – the Bill and Melinda Gates Foundation and the Wellcome Trust - to commit now to divesting from the top 200 fossil fuel companies within five years and to immediately freeze any new investments in those companies. [140]

PROGRESS

There has been significant progress made in the fossil fuel divestment arena, which has been calculated as the fastest-growing divestment campaign in history by Oxford University. A study puts the total amount divested from fossil fuels globally at $2.6 trillion. The Oxford study shows the current move to divest from fossil fuels could cause significant damage to coal, gas and oil companies. [141]

In 2014, the World Bank, the European Investment Bank and European Bank for Reconstruction and Development announced that they would be severely restricting their involvement in coal, just short of complete divestment. [142]

The Norwegian Parliament's move to sell off coal investments from its $900 billion sovereign wealth fund is the world's biggest sell off of coal investments. 122 companies across the world will be affected, including Drax and SSE, which owns Fiddlers Ferry and Ferrybridge power stations. Norway is set to sell its $49 million stake in Drax and its $956 million of shares in SSE, which will be the biggest single sell-off from Norway's fund. At the end of May, French financial services giant Axa committed to sell $560m of coal-related investments. [143]

People and Planet have celebrated a number of divestment victories: eight universities have committed to divesting from all fossil fuels. [144] Newcastle City Council voted in August 2015 to divest from fossil fuel stocks. This has been seen as of huge significance given it is a 'coal city'. [145]

Even oil companies are getting in on the act with Total SA, the French oil company and one of the six "supermajor" fossil fuel companies, deciding to no longer produce or market coal by the end of 2016. [146]

Fossil Free UK publishes a full list of divestment commitments which can be found here: **http://gofossilfree.org/commitments/**

LIMITATIONS OF CURRENT DIVESTMENTS

Norway has banned its Pension Fund from investing in companies that make 30% or more of their sales from coal. Axa SA said it will divest mining companies that get more than 50% of their revenue from coal. The Church of England has vowed not to invest in any business that gets more than 10% of its revenue from coal.
However these criteria exempt some of the biggest producers, which are large diversified miners and only get a small proportion of their revenue from coal, including: Glencore Plc, the world's biggest exporter of coal used in power stations; BHP Billiton Ltd; Rio Tinto Group; and Anglo American Plc. Between them, these four companies mine more than 350 million tonnes of coal, this is about one third of the world's coal trade. [147]

PART 4

OVERALL CONCLUSIONS

The impacts of coal extraction in the main countries that UK power stations source coal from are described in detail in this report. A set of common themes have been highlighted, with communities living near to coal infrastructure routinely subjected to serious injustices: the displacement of people from their land, often by force; adverse health impacts inflicted on communities throughout the supply chain; disenfranchisement of those most affected from decision-making and political processes concerning coal mine development; and the destruction of biodiversity and water courses, affecting the livelihoods of those who depend on them.

In Russia, indigenous Shor and Teluet communities bear the brunt of the impacts of vast mining operations, with their land and cultural heritage being systematically taken away from them to make way for mining operations.

In Colombia, indigenous Wayuu people and Afro-Colombian communities are disproportionately evicted for coal mine expansion, and forced into malnutrition through loss of traditional lands. Mining companies have been implicated in the financing of paramilitary groups that have carried out terrible atrocities and mass killings.

In the USA, various mining practices are destroying entire mountain ranges in Appalachia, while huge areas of land are intentionally collapsed by longwall mining elsewhere. Many of these mines are polluting waterways, and coal companies are regularly prosecuted as a result. Communities lose their landscapes and health for the private gain of mining companies.

In the UK, the scale of mining operations is smaller, but opencast mines still impact community health, tear up landscapes, and force communities to endure years of endless and stressful engagement with the planning process. One remaining deep mine, and a number of opencast mines in South Wales, Northumberland and the central belt of Scotland still supply UK power stations with coal.

The coal industry talks about sustainability, yet beneath this there is a conflict of world views between the companies involved - which value economic growth, profit and separation from nature above all else - and the people living along the coal supply chain, whose values are based on community and long term relationships with the land around them. There is no country in the world with standards of coal extraction acceptable, either environmentally or for those affected by its impacts. Responsible coal sourcing is simply not possible, and avoiding certain mining regions is not the solution.

Across the world, coal mines destroy ecosystems, and burning the coal they produce pushes the world ever closer to catastrophic climate change. The impacts of the coal industry that have been highlighted in this report are the UK's responsibility – they are the responsibility of the energy companies that operate power stations, and they are the responsibility of decision-makers who allow power stations to remain in operation.

Coal mined in the places described in this report is loaded on to ships at various ports throughout Russia, Europe, Colombia, and the USA. Then, through a complex supply chain, it makes its way to power stations in the UK. Currently, the Port of Immingham receives by far the greatest amount of imported coal, with the Port of Tyne, Hunterston Coal Terminal, and Avonmouth also remaining important import terminals.

BLOCKADE AT SHOTTON OPENCAST MINE IN NORTHUMBERLAND, ENGLAND, IN 2015. ENDCOALNOW.COM

The UK's ageing fleet of coal-fired power stations is burning far less coal than in previous years, with three power stations due to close in the near future, and others running at low capacity or running down on-site stockpiles of coal. Drax, Cottam and Aberthaw power stations stand out as the current biggest coal-burners in the UK, with Drax receiving over a third of all coal currently transported to power stations. Longannet power station has also seen a resurgence in coal imports recently, although it is due to close in early 2016.

Keeping the furnaces burning at these power stations is a series of Government support mechanisms in the form of direct subsidies, regressive policy changes, and attempts to exempt power stations from emissions standards. This series of generous hand-outs to polluting power stations, and vast subsidies for burning biomass at Drax, allows it to keep burning coal long into the future.

Whilst this report has attempted to link power stations in the UK with the impacts of the coal they source both domestically and internationally, it has also shed light on the actions of UK-registered mining companies that do not always supply power stations in the UK, but nonetheless play a large role in the global coal trade. These are companies like BHP Billiton, which is attempting to mine some of the remaining least disturbed parts of Indonesian rainforest. No matter where coal is sourced from, it is negatively impacts people and the ecosystems they rely on.

A theme that this report has identified is a serious lack of transparency throughout the whole supply chain. This obscures the human impacts of the coal that is burned in power stations, and allows energy companies to hide the true impacts of their sourcing with various layers of commercial confidentiality and weak claims of corporate social responsibility.

The authors of this report call on the UK Government to take decisive action and announce a complete and legally binding coal phase out, as soon as is practically achievable, as well as a removal of support for carbon capture and storage, and an enforced ban on coal mining in the UK. Simultaneously, all support for coal infrastructure abroad should be withdrawn, and the London Stock Exchange effectively regulated to prevent listed companies engaging in harmful activities.

If the Government will not take a lead on this, then it is the role of those of us who consume the end product – through our electricity supply - of harmful coal extraction, to take action against mining, coal infrastructure, and power station operators using diverse methods including divestment, direct action and solidarity with directly affected communities.

Energy generation and use in the UK requires a wholesale rethink, which must move away from its reliance on damaging extraction processes and the relentless exploitation of finite resources. This change must be founded on the principles of serious reduction in demand for and production of energy, a reclaiming of decision-making power from the vested interests of energy companies, and solidarity with communities impacted by energy infrastructure. As part of this, our addiction to coal and the electricity generated by it must be ended urgently.

Do we really know where our electricity comes from?

In 2014, 30% of the electricity produced in the UK came from coal fired power stations, but what do we really know about this industry? This report aims to "follow the coal" in order to expose the impacts on people and the environment that the coal burned in UK power stations is responsible for. It includes stories told by the communities most affected by it, and tracks a supply chain that starts in Russia, Colombia, the USA, and the UK's own coal fields, before traveling many miles, and often through many hands, to UK power stations, and then on to the National Grid and into homes and businesses.

Now is an important time to push for a complete coal phase out, at an earlier date than currently proposed by the UK Government. Energy companies need to make decisions now about whether or not to keep their old coal fired power stations online, or close them for good. This report calls for coal fired power stations to be closed for good.

DRAX POWER STATION. STEVE MORGAN/GREENPEACE